

Technical Report 1243

**Temporal Investigations Into the Relationship
Between Affect and Discretionary Work Behavior**

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December 2008



**United States Army Research Institute
for the Behavioral and Social Sciences**

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and Training**

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Any remaining errors of omission or commission, however, are our own, and should not be attributed to the aforementioned individuals or organizations.

TEMPORAL INVESTIGATIONS INTO THE RELATIONSHIP BETWEEN AFFECT AND DISCRETIONARY WORK BEHAVIOR

EXECUTIVE SUMMARY

Research Requirement:

After a long hiatus, mood and emotions (collectively known as “affect”) are enjoying a strong resurgence in the organizational sciences. A theory named Affective Events Theory (Weiss & Cropanzano, 1996) has proposed that workplace affect is largely the result of discrete workplace events and, consequently, is highly variable within a given person over time. It can therefore be distinguished from traditional job satisfaction. Moreover, the theory proposes that many important work behaviors, including those we typically construe as elements of job performance, are strongly influenced by affect, and are themselves highly volatile within persons over time. Yet, traditional data collection methods are cross-sectional—and, therefore, ill-equipped for the analysis of differences within a given person over time.

The current set of four projects was designed to test aspects of Affective Events Theory and to incorporate the role of task-related attention as well as that of non-work factors. This research was conducted under a contract from the Basic Research Unit (BRU) of the U.S. Army Research Institute for the Behavioral and Social Sciences (Contract #: W74V8H-04-K-0001; Effective Date: 01 May 2004; Effective Date for Amendment: 13 March 2006).

Procedure:

The basic data collection method common to all projects is called Ecological Momentary Assessment (EMA). EMA involves several respondents, each of whom is surveyed on several occasions. This allows us to assess within-person processes, but also how these processes generalize across people. EMA surveys occur in near “real time” as respondents get along with their daily lives and work.

Findings:

We focused on two types of work behavior. Organizational citizenship behavior improves the functioning of the organization, whereas counterproductive (or deviant) work behavior harms the legitimate interests of an organization. Affective Events Theory predicts that behaviors such as these are highly variable within a given person over time, and we indeed found this to be true. Several researchers had moreover posited that citizenship and counterproductive behavior would be strongly negatively inter-related. However, we found that, within persons over time, these work behaviors were independent of each other and also made independent contributions to the prediction of overall job performance. Furthermore, we found specific *patterns* of affect-behavior relationships: citizenship behavior was primarily predicted by positive affect whereas counterproductive behavior was primarily predicted by negative affect.

We additionally found that these behaviors were predicted by the capacity for attention, which in turn was predicted by sleep quality and quantity the previous night. Affect also was

predicted by incidents of unjust treatment and in turn initiated emotion regulation strategies. The strategy of faking (pretending) positive emotions was particularly harmful to the employee.

We also looked at the consequences of *experiencing* a low-grade form of counterproductive behavior called incivility (essentially, rude and condescending behavior). Experiencing incivility was related to *enacting* it toward others, enacting other forms of counterproductive work behavior, and experiencing more negative emotions. Thus, a modified version of the “catharsis” hypothesis—namely, that acting aggressively makes a person feel better—was falsified.

In conclusion, these projects represented initial steps in testing and expanding Affective Events Theory. Perhaps the most important conclusion from these projects is that the traditional research focus—on behavior variation *across* employees—will need to be expanded to accommodate the reality that much work behavior is in fact highly volatile within persons over time.

Utilization and Dissemination of Findings:

Our research is unmistakably relevant to the U.S. military in its quest for the “good Soldier.” One implication is that overall Soldier performance is composed of several elements. Of these, counterproductive (i.e., deviant or delinquent) behavior is especially likely to be of interest to the military (e.g., Bell & Holz, 1975; Lennon, 1994), where the cost of such behavior during combat operations can often be measured in terms of lost lives: those of civilians, of one’s fellow Soldiers, and—in cases of disregard for the norms of civilized combat—of enemy combatants and detainees. Moreover, because counterproductive and citizenship behavior are highly volatile within a given person over time, it is unrealistic to expect that selection tests can screen out all undesirable behavior and screen in all desirable behavior. Situational factors, such as events and interventions, therefore assume greater importance. Events trigger emotions, which in turn influence behavior. Thus, although it is difficult to acknowledge the importance of emotions in a traditionally masculine culture like the military, military policy-makers are likely to see the value in attempting to decrease the occurrence and impact of negative emotions among Soldiers.

TEMPORAL INVESTIGATIONS INTO THE RELATIONSHIP BETWEEN AFFECT AND DISCRETIONARY WORK BEHAVIOR

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Background

Introduction

Job performance is so important a topic of inquiry to industrial/organizational psychology that it is often simply referred to as “the criterion.” Traditional views of job performance have restricted the performance space to what Borman and Motowidlo (1997, p. 99) refer to as “task performance”—i.e., “the effectiveness with which job incumbents perform activities that contribute to the organization’s technical core.” However, there is a growing realization (Organ & Paine, 1999; Borman & Motowidlo, 1997; Campbell, 1990b) that employees engage in several work behaviors that do not fall under the rubric of core task performance.

Employees may, for instance, extend help to their co-workers, praise the organization to outsiders, spread malicious rumors about their supervisor, or vandalize machinery. These “discretionary” behaviors, and others like them, may not directly affect the task performance of the employees committing them. However, they are likely to affect the performance of the organizations in which these employees work (e.g., Organ & Paine, 1999; Murphy, 1993). From the standpoint of basic research, a failure to incorporate discretionary work behavior into our conception of performance leads to serious criterion deficiency. Moreover, there is evidence (e.g., Rotundo & Sackett, 2002) that supervisors in organizations recognize and take account of discretionary work behavior while evaluating the performance of their subordinates. In addition to being overly narrow, therefore, the basic research perspective that equates task performance with job performance increases the scientist-practitioner divide. For these reasons, discretionary work behavior has recently begun to be researched very heavily in the academic literature.

Yet, much remains to be discovered about discretionary work behavior. Controversies still exist with regard to the basic structure of both positive and negative discretionary work behavior. Models of the causes of these behaviors remain primitive, and account for little variance in the phenomena. Without agreement on structure, research will not accumulate. Without understanding the causes of discretionary work behaviors, effective interventions cannot be produced.

The research we conducted represents an attempt to deal with these issues. Our program of research has focused on better describing the underlying dimensional structures of both positive and negative discretionary behaviors. In addition, we have attempted to better understand the causes of discretionary behavior by incorporating the burgeoning literature on the immediate consequences of momentary affective states (see Brief & Weiss, 2002, for a review of this literature).

This report begins with a discussion of the nature of discretionary work behavior in the U.S. military and other occupations, followed by a description of positive (“organizational citizenship behaviors”) and negative (“counterproductive work behaviors”) discretionary behaviors. It then proceeds to discuss a framework tying these behavioral displays to employees’ immediate emotional states. We then provide a description of each research project: the basic questions addressed, the data collection and data analysis, and the inferences reached. We

conclude by discussing the implications of our findings for future research and for the U.S. military.

Discretionary Work Behavior in the United States Army and Other Occupations

Between 1983 and 1988, the U.S. Army Research Institute for the Behavioral and Social Sciences sponsored the Army Selection and Classification Project, also known as “Project A.” The overall goals of Project A were to “generate the criterion variables, predictor measures, analytic methods, and validation data [...] necessary for developing an enhanced selection and classification system” for the almost 300 entry-level positions referred to as Military Occupational Specialties (Campbell, 1990a, p. 232). After much high-quality research, a model of performance was obtained that contains the following five dimensions: (1) Core Technical Task Proficiency, (2) General Task Proficiency, (3) Peer Support and Leadership, Effort, and Self Development, (4) Maintaining Personal Discipline, and (5) Physical Fitness and Military Bearing.

In comparison to the results of Project A, consider Borman and Brush’s (1993) taxonomy of managerial performance requirements. This taxonomy was derived from a factor analysis of a 187 x 187 correlation matrix constructed by having 25 experienced industrial psychologists sort 187 managerial performance dimensions, obtained from 26 sets of dimensions present in the extant literature, into categories based on perceived similarity. They arrived at 18 “mega-dimensions,” which they further grouped into 4 even larger “groupings”: (1) Interpersonal dealings and communication, (2) Leadership and supervision, (3) Technical activities and the “mechanics of management,” and (4) Useful personal behavior and skills (Borman & Brush, 1993, p. 10).

Similar performance taxonomies have been developed for numerous other jobs. Clearly, performance dimensions obtained specifically for enlisted Army personnel should not be expected to map perfectly onto performance dimensions obtained for managers or employees in other occupations. However, the overall similarity among dimensional structures suggests that a good amount of generalization can be expected.

Of interest here is the observation that when these structures are abstracted to a higher level, dimensions from virtually all performance taxonomies—regardless of the specific occupation—appear to reflect two fundamental behavioral factors. These factors correspond to *core task performance* on the one hand and *discretionary work behavior* on the other (e.g., Rotundo & Sackett, 2002). In the aforementioned Project A classification, for instance, the first two dimensions reflect a greater weighting of task performance whereas the last three dimensions reflect a greater weighting of discretionary work behavior. Similarly, with the exception of “technical activities and the ‘mechanics of management,’” all of Borman and Brush’s (1993) “groupings” reflect significant amounts of discretionary work behavior.

In sum, taxonomic research indicates that discretionary work behavior is an important part of performance in virtually all occupations, including those under the umbrella of the U.S. Army. However, that research also has shown that a class called “discretionary behavior” is too broad to be either practically or theoretically useful. In particular, two distinct research traditions

have developed in this area. One focuses on positive discretionary behavior. Although many other names have been given to this grouping of behaviors (e.g., prosocial organizational behavior), we will use the most widely used term, organizational citizenship behavior. The other tradition focuses on negative behaviors. Once again many other names (e.g., deviant behavior) have been used, but the most widely used name is counterproductive work behavior. In the next two sections, we will summarize some of what is known about these classes of behaviors. Here, it should be noted that research on citizenship and counterproductive behavior has rarely intersected. One of the objectives of our research was to examine the connections between these research programs.

Types of Discretionary Work Behavior

Organizational Citizenship Behavior (OCB)

Construct definition. Organizational citizenship behavior is defined as behavior that is at least somewhat discretionary and that improves the functioning of the organization (Organ & Paine, 1999; Borman & Motowidlo, 1997).

Nature of the construct. The idea of OCB is not new. In *The Functions of the Executive* (1938), Chester Barnard argued that, in organizations, effort must be exerted not only to perform the functions that contribute to the goals of the organization but also to maintain the organization itself. Individuals differ in their willingness to contribute effort to the “cooperative system” (p. 83), and this individual difference in behavior cannot be explained by individual differences in ability and effectiveness. Katz and Kahn’s (1966) *The Social Psychology of Organizations* carried this argument further. In any organization, they claimed, the system would break down were it not for the “countless acts of cooperation” exhibited by employees (p. 339). They further noted that the incentives that motivate such spontaneous, informal contributions are different from those that motivate task proficiency.

In 1977, Dennis Organ suggested that there could, after all, be some truth to the discredited Human Relations (e.g., Roethlisberger & Dickson, 1939) “happy-productive worker” theory. Organ argued that the repeated failure to find a strong relationship between job satisfaction and job performance could have been a function of the overly narrow view of performance held by researchers. He contended that behaviors that make the organization easier to run also should be included as “performance,” and indeed that practitioners hold this as self-evident. Managers are likely to rate employees as being “high performers” even if their productivity—as measured by output of goods and services—is not particularly high, provided they attend work regularly, are always on time, accept and adhere to workplace rules, respect their co-workers and supervisor(s) and the organization, and place a higher priority on the organization and its employees than on short-term personal goals (Organ & Paine, 1999).

Borman and Motowidlo (1993, 1997) also urged researchers to focus on behavior that contributes to the effectiveness of the organization by “[shaping] the organizational, social, and psychological context that serves as the catalyst for task activities and processes” (Borman & Motowidlo, 1997, p. 100). Taxonomies of such behavior include “persisting with enthusiasm and extra effort as necessary to complete own task activities successfully,” “volunteering to carry out

task activities that are not formally part of own job,” “helping and cooperating with others,” “following organizational rules and procedures,” and “endorsing, supporting, and defending organizational objectives” (Borman & Motowidlo, 1997, p. 102).

Two topics have dominated research on citizenship behavior, and neither has provided conclusive findings. These topics are the dimensionality and antecedents of citizenship. Both are summarized below.

Dimensionality. In 1983, Smith, Organ, and Near reported two dimensions of citizenship behavior, namely an “interpersonal” dimension (variously referred to as “OCB-I” and “altruism”) and an “organizational” dimension (variously referred to as “OCB-O” and “compliance”). This taxonomy was formulated on the basis of the target of the behavior: individual employees or the organization as a whole. Organ (1988) expanded the taxonomy to include “altruism” (a narrower conceptualization than his 1983 conceptualization), “conscientiousness” (a narrower form of compliance), “sportsmanship” (e.g., not complaining about trivial matters), “courtesy” (e.g., consulting with others before taking action), and “civic virtue” (e.g., keeping up with matters that affect the organization). Podsakoff and colleagues (e.g., Podsakoff & MacKenzie, 1994) operationalized these five dimensions and constructed scales to measure them.

In 1999, Organ and Paine stated that the original two-factor (interpersonal and organizational) model is the most stable and tends to subsume other, more complicated models (but see Coleman & Borman, 2000, for a dissenting view). Van Scotter and Motowidlo (1996) also suggested two factors called “interpersonal facilitation” and “job dedication,” which are virtually identical to Organ’s interpersonal and organizational factors respectively. Interestingly, Van Scotter and Motowidlo (1996) suggested that job dedication could not be empirically separated from task performance, but that interpersonal facilitation could be separated from both job dedication and task performance. In complete contrast, Conway’s (1999) research on managerial performance suggests that job dedication *is* distinguishable from task performance whereas interpersonal facilitation is less distinguishable.

More recently, a meta-analysis (LePine, Erez, & Johnson, 2002) found insufficient evidence to separate the general factor of citizenship into further sub-factors. Strong inter-relationships were observed among most of the five dimensions (specified by Organ, 1988), and the dimensions had similar relationships with external variables. There is, therefore, still some ambiguity about the dimensionality of citizenship. In conclusion, it may be worth recalling Coleman and Borman’s (2000) assertion that the specific structure employed in a given application depends on one’s purpose.

Antecedents. Job satisfaction, organizational commitment, organizational justice or fairness, leader support, and conscientiousness have often been suggested as antecedents of citizenship behavior. Two meta-analyses (LePine, Erez, & Johnson, 2002; Organ & Ryan, 1995) show that the correlations (corrected for unreliability) between citizenship behavior and satisfaction, commitment, and justice are around $r = .30$, the correlation between citizenship and leader support is slightly higher, and that between citizenship and conscientiousness is slightly lower. Conscientiousness and related traits like work orientation and dependability are the most

noteworthy dispositional predictors of citizenship behaviors (Organ & Ryan, 1995; Borman & Penner, 2001), although trait affect also has been linked to citizenship behavior (Lee & Allen, 2002). Two observations can be made when examining the antecedents of OCBs. First, predictors of these behaviors are only moderately successful. Second, the study of antecedents is not generally characterized by any systematic process framework. The latter failing may account for the generally modest correlations. Our research will differ from the existing research on antecedents by using a framework based upon the causes and consequences of true affective states (moods and emotions).

Counterproductive Work Behavior (CWB)

Construct definition. Counterproductive or deviant work behavior is defined as volitional employee behavior that harms, or at least intends to harm, the legitimate interests of an organization (Sackett & DeVore, 2001; Spector & Fox, 2002).

Nature of the construct. The study of counterproductive work behavior has had a much shorter history than that of citizenship behavior (Robinson & Bennett, 1995), even though counterproductive work behavior is responsible for organizational losses worth several billion dollars annually (Murphy, 1993). Although specific types of counterproductive work behavior have long been studied individually (cf. Grover, 1997; Greenberg, 1997; Dalton & Mesch, 1991; Blau, 1994), lists of punishable offenses in organizations have been constructed (e.g., Redeker, 1989), and organizational rule-breaking behaviors have been classified as serious versus non-serious offenses (Wheeler, 1976), the systematic *empirical* study of valid counterproductive work behavior *constructs* has only recently been undertaken.

Robinson and Bennett (1995) urged researchers to focus on behavior that is voluntary and that violates important organizational norms, thereby threatening the well-being of the organization and/or some subset of its employees. Similarly, Sackett and DeVore (2001) called attention to intentional employee behavior that an organization views as contrary to its legitimate interests. Taxonomies of such behavior include (but are not limited to) theft, destruction of property, misuse of information, misuse of time and resources, unsafe behavior, poor attendance, poor quality work, alcohol or drug use or distribution, and inappropriate verbal and physical actions (Sackett & DeVore, 2001; Bennett & Robinson, 2000; Gruys & Sackett, 2003).

Dimensionality. Robinson and Bennett (1995) made the distinction between the “interpersonal” (e.g., “CWB-I”) and “organizational” (e.g., “CWB-O”) aspects of counterproductive work behavior, a distinction similar to that made in the citizenship literature. They also distinguished between “minor” and “serious” acts. Bennett and Robinson (2000) maintained the “interpersonal” versus “organizational” distinction; however, by then they had eliminated the “minor” versus “serious” distinction because this was considered simply an issue of severity rather than a conceptual difference (Robinson & Bennett, 1997), and because behaviors differing in severity (and hence base-rate) tended to cohere together empirically. However, the issue of dimensionality is hardly settled. Some authors (e.g., Lee & Allen, 2002) have noted that in practice interpersonal and organizational components of counterproductive work behavior are often extremely highly correlated (e.g., latent $r = 0.96$ in Lee & Allen, 2002) and, therefore, non-distinguishable.

Antecedents. The antecedents of counterproductive work behavior that have been explored are similar to those used to predict citizenship behavior. The results are similar as well. Moderate correlations have been observed between organizational justice components and counterproductive work behavior (Bennett & Robinson, 2000; Skarlicki & Folger, 1997). Job satisfaction also has been investigated as an antecedent: four large-scale investigations (London House and Food Marketing Institute, 1991, 1992, 1993, 1995) found correlations in the range of -0.21 to -0.28 between job satisfaction and counterproductive work behavior (excluding theft). Conscientiousness, too, appears as a dispositional antecedent: in a meta-analysis that did not distinguish between various forms of counterproductive work behavior, Hough (1992) found that two facets of conscientiousness (achievement and dependability) were both correlated at approximately 0.20 with a prototypical counterproductive work behavior. Finally, trait affect also has been related to counterproductive work behavior (Lee & Allen, 2002). Again, modest correlations in the absence of systematic process models characterize the research.

Affect, Citizenship, and Counterproductive Work Behavior

Distinguishing Satisfaction From True Affect, and the Resurgence of Interest in Affect

As already indicated, our research attempts to provide a more coherent and process-driven framework to the study of discretionary behaviors, by focusing on them as responses to true affective states (i.e., moods and discrete emotions). Before we begin a discussion of that connection, a brief discussion of the nature of organizational research on affective states will be useful.

The study of affect in work settings, and particularly the study of the performance implications of affective states, has a long but particularly disappointing history for a number of reasons. First, reflection will convince most people that organizations are settings of emotional intensity. If emotions are generated by appraisals of the reaching or impeding of important personal goals or values, then where is this more likely to play out than in work settings? Each day at work, our needs, desires, and identities are challenged and affirmed. So, one would think that the study of emotions at work would be a core topic of organizational research. It is not. Second, since job performance has been *the* criterion of interest for organizational researchers, one would think that the relationship between emotional states and job performance would receive great attention. It has not.

Third, research on the performance implications of true affective states was conducted early in work psychology research. Hersey (1932) examined daily mood states (he did not call them that, but he used what today would be considered a mood checklist) among blue-collar workers. He tracked those mood states with daily performance measures. Hersey showed that on negative mood days performance deteriorated quite a bit, but on positive mood days there was little enhancement of performance.

Yet, this promising beginning was lost in a paradigm shift that substituted the attitude construct of job satisfaction for affect constructs like moods and emotions (Weiss & Cropanzano, 1996). For almost 60 years the study of affect was pushed aside for the study of job satisfaction and the correlation of job satisfaction and performance. Since the 1930s, organizational

psychologists have believed that they have been studying work-related affect when they studied job satisfaction. Operationally, job satisfaction is assessed as an attitude one has about one's job. Rigorous or ad hoc attitude scales are developed and used to measure evaluative judgments about jobs or elements of job experience (pay, co-workers, etc.). Theoretically, these operations had been thought to capture "emotions about one's job" (see Locke, 1976, for example), and so for most organizational researchers the construct of job satisfaction was synonymous with the construct of emotion. When these researchers studied job satisfaction they thought they were studying emotions, moods, etc.

Numerous reviews and meta-analyses have consistently shown that job satisfaction shows weak relations with job performance, heroic efforts at rescuing the relationship through statistical corrections notwithstanding (Judge, Thoresen, Bono, & Patton, 2001). Consequently, organizational psychologists were hard pressed to acknowledge that affect had much to do with performance. Thorough process models need not be entertained to explain relationships that do not exist. Instead, it was believed that performance could best be explained by models of workers deciding among courses of action with different payoffs.

As research on emotions heated up across the various subdisciplines of psychology, organizational psychologists began to realize that the satisfaction paradigm was too narrow (Brief & Weiss, 2002). Emotional experiences (the fear of losing one's job, the anger of being passed over for promotion, the elation from being noticed by higher management, etc.) are experiences not captured well by the attitudinal framework of job satisfaction. Neither are the day-to-day rhythms of moods. Moods and emotions offer richer phenomena to study and, moreover, the basic research on these phenomena describes consequences of clear relevance to organizational performance.

The 1980s and 1990s saw a rebirth of interest in affect research (Brief & Weiss, 2002), and with that a rebirth of interest in the performance implications of affective states. Weiss and Cropanzano (1996) developed an overarching framework for studying affect at work (Affective Events Theory) that has spawned a good amount of research on the topic (Ashkanasy, Härtel, & Daus, 2002; Fisher, 2000; O'Shea, Ashkanasy, Gallois, & Härtel, 2000; Weiss, Nicholas, & Daus, 1999; Weiss, Suckow, & Cropanzano, 1999). With regard to performance, Weiss and Cropanzano argued that affect-performance relationships required better process models that focused on the consequences of true affective experiences and studied those relationships in an episodic time structure. In a moment, we will discuss the framework provided by Weiss and Cropanzano and its implications for studying both citizenship and counterproductive work behaviors. Before that, however, we will review the existing research on affect's relationships with OCB and CWB.

Affect and Citizenship Behavior

Some research has been conducted showing that affective states are related to components of citizenship behavior. A substantial body of social psychological research has demonstrated that being in a positive mood state generally encourages the display of helping and cooperative behavior. Because, as we have already documented, helping behavior is one of a number of organizationally important "citizenship" behaviors, it should not be surprising that a

body of research has developed tying mood states to various forms of helping behavior at work. In a series of investigations, George (1991; George & Bettenhausen, 1990) has looked at the relationship between positive mood at both the individual and group levels and prosocial behavior directed at co-workers. George has found generally positive relationships between self-reports of weekly mood and supervisory reports of helping co-workers.

Other research has shown that job satisfaction is related to citizenship behavior (e.g., Lee & Allen, 2002), but the explanation for this is not without controversy. It is generally acknowledged that job satisfaction is an attitude with both cognitive and affective components. Some (Organ & Konovsky, 1989) have argued that citizenship behavior is related to the cognitive component of job satisfaction while others (George, 1991; George & Bettenhausen 1990), as we have already mentioned, argue that it is driven by the affective component. Lee and Allen (2002) believe that affect is more important for citizenship behavior directed at individuals than at organizations and provide some data that supports their contention.

Thus, the relative role of affect in the display of citizenship behavior has not been settled. However, there is good reason to suspect that the existing research paradigm will be unable to answer the question with any precision. Much of the research takes job satisfaction as its starting point, a severe limitation for the study of true affective states. Even the research that focuses on recognizable affect constructs is limited by the nature of the methods employed. All the existing research examines whether people who generally report more positive affect are generally seen as displaying more citizenship behavior. As we will discuss in more detail later, this between-persons paradigm fails to examine the within person co-occurrence of these states and behaviors, preferring instead to correlate *aggregates* of phenomena that play out over real time. Apart from the inherent inability of such aggregates to accurately capture the true frequency of the states, between-person analyses can mask within-person relationships (Beal & Weiss, 2003).

In addition, research on the links between affect and citizenship behavior has not progressed beyond the simple relationship between self reported moods and global citizenship (apart from the OCB-I/OCB-O distinction). However, moods are only one type of affective states. People can and do experience discrete emotions at work. They feel happy, proud, elated, etc. Are all related to citizenship behavior in the same manner? Are all types of citizenship behavior responsive to affective states in the same way? Clearly, more precise and theory-driven research on the relationships between affect, general and specific, and various forms of citizenship behavior is warranted.

Affect and Counterproductive Work Behavior

Since the beginning of interest in counterproductive work behavior, organizational scholars have implicated negative affective states as one possible cause. Generally, this proposed relationship has arisen out of an awareness of the findings of basic research on aggression. So, for example, Berkowitz (1993) proposed the distinction between instrumental and emotional aggression. Berkowitz labeled emotional aggression as those aggressive behaviors that are relatively impulsive and emotionally instigated and in which harm is intended as an end in itself. A key point for organizational research on the topic is Berkowitz's claim that any negative affective state, regardless of its source or type, carries with it aggressive tendencies. He

reinterpreted the classic research on frustration and aggression (Miller, 1941) in terms of negative affect, arguing that it is the affect associated with frustration, and not the frustration itself, that is responsible for the aggression. He also used his proposition of the general effects of negative affect to explain the well-known relationship between uncomfortable temperatures and aggression. In Berkowitz' model, unpleasant events of all types can actuate aggression.

Recently, Anderson and his colleagues (e.g., Anderson, Deuser, & DeNeuve, 1995) have extended Berkowitz' ideas, adding elements of Lazarus' emotional appraisal concepts (e.g., Lazarus & Folkman, 1984). They showed that heat (as a negative event) not only increases levels of anger but also primes hostile cognitions. Overall, the basic research shows that negative affective states increase aggression and hostility and bias the interpretation of subsequent events in a more hostile direction.

Researchers of CWBs tend to see them as acts of hostility and, therefore, it should come as no surprise that discussions of the causes of CWB have generally included negative emotional states. Spector (1997), for example, presented a model of the relationship between frustrating events and CWB that treats experienced emotion as the mediating variable. In support of the model, Chen and Spector (1992) showed that self-reports of anger mediated the relationship between frustration and various antisocial behaviors at work. Neuman and Baron (1997) also gave the negative emotional states of anger and hostility a mediating role between key workplace events and a broad array of antisocial responses. Greenberg (1997) and Skarlicki and Folger (1997) have shown that perceptions of injustice are important determinants of counterproductive work behaviors; but Weiss, Suckow, and Cropanzano (1999) demonstrated that perceptions of injustice induce feelings of anger, and so the effects of injustice on counterproductive work behavior also may be due to experienced negative affect.

Although the theoretical discussions of counterproductive work behavior seem to implicate negative affective states as having a proximal causal role, the empirical research on this topic is meager. Vardi and Weitz (2004) provide a wide-ranging summary of the research on "misbehavior in organizations" and, while they allege that emotions (particularly anger and jealousy) play an important role, they offer no supporting empirical evidence. Recently, Lee and Allen's (2002) research on nurses found that self-reports of the frequency of affective states were shown to predict peers' ratings of counterproductive work behavior.

Beyond that investigation, little is known about the role of affect in counterproductive work behavior. In spite of the clear importance of "emotional aggression" in basic research, most empirical organizational research tends to focus on "instrumental" factors. As such, the literature is ignoring a fundamental cause of counterproductive work behavior, producing a limited understanding of the topic, and consequently constraining the development of interventions to address the problem. An important objective of our research is to address this imbalance and show the relevance of affective states to the display of counterproductive work behavior in organizations.

Before leaving the topic of affect and counterproductive work behavior, we should mention one controversy in the literature of great importance in understanding negative behavior in organizational settings. That controversy has to do with the relative effects of general versus

particular negative emotions. As indicated earlier, Berkowitz (1993) has argued that any negative affective state has the potential to instigate an aggressive response. Evidence for this point of view is provided by, among other things, the research on uncomfortable temperatures and aggression. On the other hand, there is research that gives the discrete emotions of anger and hostility the primary role in aggressive responding. Keltner, Ellsworth, and Edwards (1993), for example, have shown that anger, but not sadness, tends to produce hostile cognitions. In the organizational literature, Lee and Allen (2002) have shown that differences in hostility contribute to co-worker ratings of counterproductive work behavior while other negative emotions do not. These later findings, however, constitute the only examination of this issue and were gathered using an aggregated between-persons design that does not look at the effects of true emotional states. Thus, no conclusions can be drawn at this time about the relative importance of particular discrete emotions. However, the practical importance of this issue clearly suggests that it should be addressed with more rigorous methods. A secondary objective of our research is to provide clarity on this issue.

Affective Events Theory: An Overarching Framework for Studying Affect, and Citizenship and Counterproductive Work Behavior

Although the basic research on emotions suggests that momentary affective states are an important influence on both citizenship behaviors and counterproductive work behaviors and the organizational literature on the topic provides some support, a thorough overarching framework for studying these relationships in detail is needed. We believe that Affective Events Theory (AET; Weiss & Cropanzano, 1996) provides such a framework. In the next few paragraphs we will briefly describe AET. We will follow this up with a discussion of how AET provides suggestions for addressing some of the limitations of the existing body of research and leads to new avenues of inquiry. The basic structure of AET is presented in Figure 1.

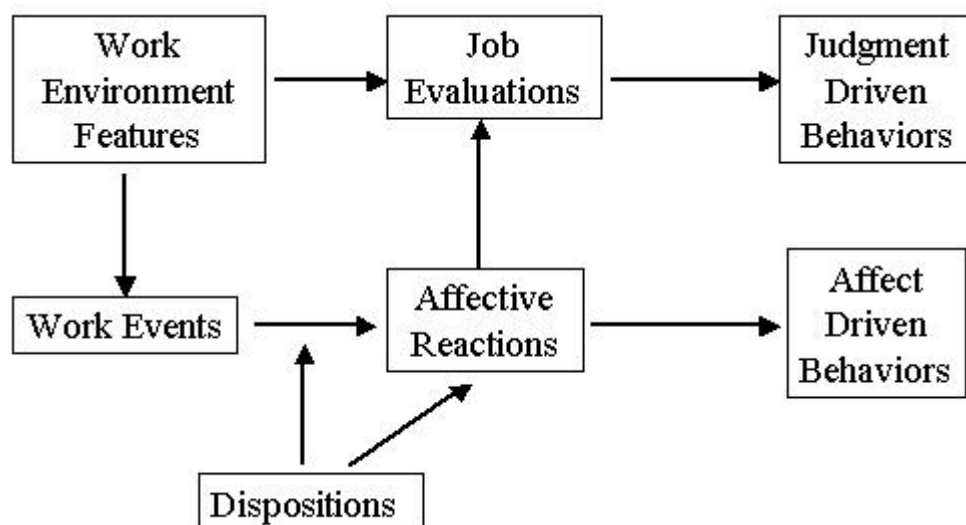


Figure 1. Basic propositions of Affective Events Theory (AET).

Note. The figure is adapted from Weiss and Cropanzano (1996).

Four key elements distinguish AET from other affect/satisfaction perspectives, and these four elements are important for understanding our approach to studying the link between affect and discretionary behaviors.

First, AET distinguishes between satisfaction and true affect. We have already discussed the confusion in the literature between satisfaction as an attitude construct versus a true affective state. AET takes as its starting point the experience of moods and discrete emotions. It focuses primarily on the causes and consequences of affect, not attitude. In fact, attitude (here conceptualized as cognitive evaluations of the job) is one of the consequences, over time, of job-related affect.

Second, AET recognizes that affective states are just that: states. As states, they have a transient nature with definable beginning and end points and they vary within people over time. People are well aware when they are angry and they are well aware when they are not. Affective states can, and do, change dramatically over time. Of particular importance to our research is the recognition that much discretionary behavior is a direct outgrowth of the particular affective state one is in. Given that these states change over time, so too should the coincident propensities to engage in the behaviors of interest. As such, appropriate models of these processes must take account of within-person patterns over time. Traditional approaches that look at correlations of between-persons assessments of satisfaction and discretionary behaviors will fail to account for what is a dynamic within-person process.

Although the transient nature of affective states is easy to accept, the meaningfulness of within-person variance in performance is too often dismissed. Organizational researchers have understood for quite a long time that performance varies within persons (e.g., Kane & Lawler, 1979). Many organizational researchers, however, have generally considered this within-person variability to be error in the context of the associated properties paradigm. However, recent work has both documented how much variance in performance is ignored by dismissing the within-person component and has started to model this component of the total variance in performance. So, for example, Fisher and Noble (2000) measured momentary performance five times a day over a 2-week period. They found that 77% of the total variance (i.e., the sum of the within- and between-persons variance) in performance was within-persons variance. Other researchers conducting variance components analyses of performance have often found substantial variance due to within-person fluctuations (e.g., Deadrick, Bennett, & Russell, 1997; Miner, 2001). Further, this within-person variance is not simply error, as it is systematically related to other variables measured in the same time frame. Clearly substantial within-person variance in discretionary work behaviors would be expected. People are not always helpful nor are they always aggressive. *A fundamental proposition of our research is that these changes in the propensity to engage in discretionary behaviors over time are related to changes in transient affective states.*

Third, AET focuses on events as the proximal causes of affective experiences and therefore the secondary (distal) causes of discretionary behavior. Things happen to people at work, and people react to these events. An employee receives praise from his or her supervisor

that makes the employee feel proud. An employee gets into an argument with a co-worker, and then feels angry. An employee's spouse telephones him or her with bad news and he or she feels sad. Events drive experiences, yet most organizational research focuses not on events as causal factors but on features of the work environment. Psychologists correlate pay or perceived organizational support or leadership style with outcomes; however, such features are stable and cannot account for the changing nature of the experiences or the behavioral consequences. At best, they set the stage for these events. A full understanding of the within-person patterns of affect and discretionary behavior will focus on the key events and the way supervisors and organizations create and manage these events. AET further posits that dispositions play a role in interpreting events and in shaping the affective reactions to them.

Fourth, AET distinguishes between affect-driven and judgment-driven behaviors. Some behaviors, like most discretionary work behaviors, are the direct and immediate consequence of being in a particular affective state. Others, like turnover perhaps, or like some components of citizenship behavior, are the result of holding a particular attitude. Satisfaction, as attitude (evaluation), is a better predictor of these judgment-driven behaviors than it is of the affect-driven behaviors. Even these judgment-driven behaviors are influenced, albeit indirectly, by affect: according to the theory, job evaluations (judgments) are influenced by *typical* affective reactions aggregated over a period of time—i.e., by trait, rather than state, affect.

In sum, it is our belief that while the evidence suggests that affect is important for understanding the causes of discretionary behaviors, the satisfaction paradigm has been misguided and limited. In its place we plan to use Affective Events Theory as the framework for understanding affective influences on citizenship and counterproductive work behavior. That framework suggests that the research be done by examining true affective states (moods and discrete emotions) in a within-persons framework, with the study of key events as instigators.

Emotion Regulation

Emotion regulation refers to “the ways individuals influence which emotions they have, when they have them and how they experience and express these emotions” (Gross, 1999, p. 557). The concept of emotion regulation makes us aware that negative affective states do not always result in dysfunctional behavior. Norms exist as to appropriate responses to negative states and people engage in all sorts of strategies to manage their emotions in socially acceptable ways. In some cases these are avoidant strategies aimed at avoiding emotionally charged events and stimuli. In some cases there are appraisal strategies aimed at managing the interpretation of events. In some cases these are response strategies aimed at modulating behavioral responses. Eron (1994) has proposed that emotional regulation is a key intervening process between negative affect and aggressive behaviors. It seems clear that no examination of the way affective states instigate counterproductive work behaviors can fail to take account of emotional regulation processes and strategies.

However, Muraven and Baumeister (2000) posit that emotional regulation, and indeed all self regulation, involves the use of what they call “regulatory resources.” They argue that our self-regulatory resources are finite in capacity, and that they drain with continued use. In fact, they use the analogy of a muscle to describe the workings of our self-regulatory capacity. At its

peak, we are most able to engage in self-regulation successfully, but with each additional regulatory burden (e.g., maintaining a diet, regulating emotions, staying focused on a task) this limited capacity is lessened (Baumeister, Muraven, & Tice, 2000). Without a chance to replenish our self-regulatory resources (i.e., allow the muscle time to regain its strength), a failure to regulate successfully is inevitable. We intend to examine the idea of depletion as it relates to the ability of people to control their natural tendencies responding to negative emotional states with dysfunctional behavior.

Research Problems

In the previous sections, we have described both the importance of studying functional (citizenship) and dysfunctional (counterproductive) discretionary behavior for fully understanding individual performance and why this understanding requires examination of the effects of immediate emotional states as causes of these important behaviors. However, research examining the impact of emotional states on citizenship behavior and particularly counterproductive behavior is rather meager. Even less understood are the factors that instigate the immediate emotional states and thereby drive the display of these discretionary behaviors. In this section, we will briefly describe a set of research problems that will serve as a bridge between the general theoretical discussion already presented and the specific research described here.

Structure of Discretionary Work Behavior

Results from a recent meta-analysis (Dalal, 2005) and other recent investigations (Rotundo & Sackett, 2002; Kelloway, Loughlin, Barling, & Nault, 2002) suggest that OCB and CWB are relatively distinct constructs, as opposed to merely being opposite poles of the same behavioral construct. These recent results have furthered our knowledge of the static, between-persons structure of work behavior. The data matrix for these investigations has taken the form of a variables x respondents rectangle that aggregates over some arbitrarily specified period of time.

As we have argued in previous sections, it is important to incorporate time into our models of data. The structure of behavior obtained from dynamic designs incorporating variables x occasions data matrices (aggregating over respondents), however, also needs to be assessed. Convergent results from static and dynamic approaches will provide us with greater confidence that we have a firm grasp on the structure of discretionary work behavior. It does not logically follow, however, that behaviors that cluster together across people must also cluster together across time (e.g., Miner, Glomb, & Liao, 2002). If static and dynamic findings are non-equivalent, the definition and components of behavioral constructs will necessarily depend on whether we are measuring behavior across people or time (or both). Either way, a time-based investigation into behavioral structure is necessary to explicate the criterion space. Only when the criterion space is fully understood does it make sense to examine antecedents of the criterion (such as emotional states). The proposed projects therefore aim to shed light on the criterion space of discretionary work behavior.

Documenting the Emotion-Performance Link

The existing research on teamwork, aggression, etc. suggests that immediate emotional states at work will drive the display of both functional and dysfunctional types of discretionary behavior in

work settings. However, these links have not been widely demonstrated. Further, extant research on behavioral responses to emotions suggests that such links are likely to be far from straightforward, depending upon, among other things, the particular emotion experienced and the target of the discretionary behaviors. Consequently, the second problem addressed by the research will be to establish the linkage between immediate emotional states and the display of OCB and CWB.

Existing research on affect at work tends not to discriminate among the particular forms in which affect is experienced (anger, pride, guilt, etc.) or directed (at the organization, at the supervisor, at co-workers, etc.). On the other hand, as we have discussed in previous sections, research on discretionary behaviors clearly discriminates at least between behaviors directed at specific employees within the organization and behaviors directed at the organization as a whole. It seems logical to assume that the type and source of the emotion will influence the type and source of the discretionary behavior beyond a simple expectation that positive states will produce functional discretionary behaviors and negative states dysfunctional behaviors. This issue will be explored in the proposed research.

Regarding CWB alone, existing research on the link between affect and aggression provides support for two conflicting positions, each of importance to organizational functioning. First, some research suggests that aggression is a direct response to anger, implicating only this emotion in the display of counterproductive behavior. Other research suggests that aggression is a generalized response to negative affective conditions, regardless of the particular type of affect, implicating other affective states beyond anger as instigators of counterproductive behavior. Research focusing on this problem will therefore examine the differential effects of the discrete emotion of anger as opposed to other negative emotional states on counterproductive behavior.

As we have indicated earlier, research indicates that both emotional states and the display of positive and negative discretionary behaviors vary within individuals over time. As a result, answers to the current research problem will be addressed best by taking a within-person perspective, examining the covariance over time between peoples' changing affective states and their changing engagement in relevant OCB and CWB.

The Role of Attentional Resources

Beal, Weiss, Barros, and MacDermid (2005) recently introduced a model of episodic performance that assigns a key role to attentional processes. This model, which uses a self-regulation perspective (e.g., Muraven & Baumeister, 2000), maintains that attentional resources are finite and can be devoted to the task at hand or to off-task thoughts such as another task or the management of emotions. Regardless of how they are used, attentional resources get depleted; they are subsequently replenished through rest. Task performance is unlikely to be high when attentional resources are depleted and/or when they are diverted to non-task activities. Thus, at least some of the impact of emotions on behavior may be mediated by attentional resources.

Antecedents of Emotions and Attentional Resources

According to Affective Events Theory (Weiss & Cropanzano, 1996), emotions are generated in response to discrete events. Weiss and Cropanzano focused on events occurring at the workplace: being praised by a customer, receiving an angry email from a colleague, etc. However, Beal et al. (2005) note that events may have effects that persist long after their culmination, in part because

people ruminate about these events. Thus, non-work events also may influence workplace behavior. For example, the death of a spouse is likely to reverberate for a long time. More prosaic events, such as stressors experienced the previous evening (e.g., a sick child), may influence behavior at work the next morning. In other words, both work-related and non-work-related events have the potential to influence work behavior by diverting, and eventually depleting, attentional resources.

There is also another potentially major source of resource depletion. We are referring to sleep—specifically, the quality and quantity of sleep on the previous night. Although sleep is very infrequently studied in the organizational sciences, research indicates that it can influence mood and behavior—including behavior related to social interaction and aggression (Kahn-Greene, Lipizzi, Conrad, Kamimori, & Killgore, 2006; Totterdell, Reynolds, Parkinson, & Briner, 1994; Zohar, Tzischinsky, Epstein, & Lavie, 2005). In other words, if a person sleeps poorly on a given night, his or her performance at work the next morning may be impaired.

The Role of Supervisors

It is important to remember that employee emotions and behavior occur in a context. One of the most important elements of that context is the supervisor. Supervisors may play two different roles that influence behavioral expression on the part of their subordinates.

First, upon the occurrence of an event that adversely influences their subordinates, supervisors are likely to themselves immediately initiate strategies to regulate their subordinates' emotions and, hence, behavior. A pat on the back or a word of encouragement from the supervisor can often go a long way in making an employee feel relaxed and cheerful—and, importantly, may avert counterproductive behavior on the part of the employee. To be successful in regulating their subordinates' behavior, supervisors must be able to identify others' emotions and be skilled at managing and altering these emotions. In other words, supervisors' emotional intelligence appears to be a construct worth studying.

Second, over a period of time, supervisors are likely to structure contingencies between certain types of subordinate behaviors and certain types of outcomes. In other words, the supervisors' influence convinces subordinates that their behavior will, inevitably, have specific positive or negative consequences. These contingencies or “climates” toward subordinate behaviors may serve to attenuate the linkages between these behaviors and the preceding affective states.

Technical Approach

Innovative methodological designs, accompanied by innovative methods of statistical analysis, become a necessity if we are to avoid a “methodological stalemate” (Larson & Csikszentmihalyi, 1983) wherein our research methods have been overtaken by, and hence cannot meet the requirements of, a new generation of theories. Theories, like Affective Events Theory (AET), which specify temporal processes and relationships, must be tested using appropriate methods that track events, psychological states and behaviors over time.

Our focus on the temporally sensitive within-person analyses of the structure of discretionary behaviors and the associations between affect and such behaviors call for innovative methods of data collection and analysis. Consequently, we thought it useful to describe these methods before proceeding to the specific projects conducted.

Data Collection Using Ecological Momentary Assessment (EMA)

As noted earlier, traditional one-shot between-person survey methods are not designed to capture dynamic process. One solution comes in the form of ecological momentary assessment (EMA), also called experience sampling methods. These methods involve several participants, each of whom responds to several short surveys in his or her natural environment—such as the home or workplace (Wheeler & Reis, 1991).

EMA has, of late, begun to gain popularity in the organizational psychology literature (Weiss, Nicholas, & Daus, 1999; Alliger & Williams, 1993) because it allows the quantitative analysis of work behavior in its natural context (Hormuth, 1986)—not just the natural physical context but also the natural temporal context. Such methods minimize the perturbation or disruption of natural ordering and sequencing of events (Kelly & McGrath, 1988), thereby representing an improvement over methods that compel either the researcher or the participant to aggregate over time intervals. EMA can, therefore, be used to examine issues concerning the relatedness of variables within persons over time.

For reasons already well specified, much of our research uses EMA methods. While such methods use a variety of technologies, researchers have come to recognize the advantages of using Personal Digital Assistants (PDAs), such as PalmPilots™, for data collection. These devices allow for on-line collection of self reported behaviors, affective states, etc., with signaling for survey completion programmed by the researcher or instigated by the participant or a combination of both. We have used an existing program for PDA-based EMA data collection, the Purdue Momentary Assessment Tool (PMAT). The PMAT is a completely flexible EMA software package developed specifically for EMA researchers.

Data Analytic Methods

Unlike a cross-sectional data matrix, where the data matrix is shaped like a rectangle (variables x respondents), an EMA data matrix is shaped like a cuboid (variables x respondents x observations). One approach to these data would be to “flatten” the data cuboid by aggregating partially or completely across within-person variance. So, for instance, instead of examining counterproductive work behavior at the level of particular signals through the day, the researcher could examine the behavior at the level of the workday (partial aggregation) or at the level of the individual employee (complete aggregation). In the latter case, the data cuboid simplifies to a data rectangle. However, such data reduction procedures are not recommended precisely because they do not use the full extent of within-person information.

Our research makes use of the complete data matrix. We analyzed the data using hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002), a subset of the broader category of multilevel modeling. Multilevel modeling possesses some distinct advantages over the easier-to-understand correlational methods.

Primary among these advantages is that multilevel models take account of the fact that, for each construct, observations at one level are nested within observations at a higher level. In the current context, surveys are nested within persons (i.e., respondents). Failing to account for

this nesting leads to overly liberal statistical tests. Another advantage of multilevel models is that they can incorporate “cross-level moderation”—that is, the extent to which a higher-level construct (e.g., a between-person construct) moderates the relationship between two lower-level constructs (e.g., within-person constructs). For instance, we can assess whether the within-person relationship between *experiencing* incivility (rude and condescending behavior) and *engaging* in incivility is moderated by the personality trait of conscientiousness, such that conscientious employees are less likely to engage in incivility after having been the targets of such behavior.

Having said this, one of our goals in writing this technical report was to facilitate accessibility of the results to a wide audience. Thus, in cases where simple within-person correlational analysis and HLM analysis produced similar results, we decided to report the correlational analysis. Even when it was necessary to present the results of an HLM analysis, we decided to focus on the conclusions rather than on the technical details. However, for readers interested in the technical details, we provide the HLM analyses in the Appendix.

The “sample size” for the within-person correlations is the total number of observations (in other words, surveys or time points). This is calculated as the product of the number of participants and the number of observations per participant. Because of this, the observations are not completely independent of each other, and therefore significance tests are biased (specifically, too liberal). In terms of the within-person correlations, we therefore focus only on the effect sizes—that is, the magnitudes of the correlation coefficients—and we base our conclusions regarding statistical significance on the HLM analyses (which, as mentioned previously, are able to take the nesting of the data into account).

Project 1: The Within-Person Relationship Between Citizenship and Counterproductive Behavior

Statement of Research Problem

Could a given employee argue with his or her supervisor while volunteering to do extra work? Could he or she speak poorly about the organization while supporting and defending organizational objectives? More generally, one could ask whether behavior such as stealing, vandalism, ignoring instructions, and spreading malicious rumors about co-workers is necessarily the “opposite” of behavior such as praising the organization to outsiders, doing everything a “good” employee would do, and helping co-workers. These queries speak directly to the structure and meaning of employees’ behavior at work, and answering them would aid us in determining how to measure employee performance accurately. Specifically, it is important to assess the relationship between organizational citizenship behavior (OCB) and counterproductive work behavior (CWB). Indeed, it could be argued that the construct definitions set the constructs up to be semantic opposites: OCB is behavior intended to benefit the organization, and CWB is behavior intended to harm it. It is therefore unsurprising that there has been tremendous interest in, and speculation about, the relationship between OCB and CWB (e.g., Bennett & Stamper, 2001; Dalal, Sims, & Spencer, 2003; Kelloway et al., 2002; Organ & Paine, 1999; Sackett & DeVore, 2001; Skarlicki & Folger, 1997; Spector & Fox, 2002).

Yet, previous meta-analytic research (Dalal, 2005) has demonstrated only a weak-to-moderate negative relationship between OCB and CWB. This meta-analysis, however, covered only between-persons research. As we have previously discussed, both OCB and CWB are likely to demonstrate considerable within-person variance over time. If within-person variability is important, researchers ought to study these constructs not only across people but also within people over time.

Why would these constructs, and their relationship, be worth studying within persons? Consider a frequently cited example (e.g., Schwartz & Stone, 1998) pertaining to the effect of exercise on ambulatory blood pressure: blood pressure is lower for people who exercise more than for people who exercise less, but blood pressure is higher when a person is exercising than when he or she is not. In other words, the relationship between exercise and blood pressure is negative between persons but positive within persons. In other words, there is no guarantee that results at the within-person level of analysis will be identical to those at the between-person level (Dalal & Hulin, in press; see also Chan, 1998; Robinson, 1950).

Thus, the present research assesses the OCB-CWB relationship at the within-person, rather than between-persons, level of analysis. The within-person study of behavior allows for the assessment of the extent to which these behaviors occur simultaneously on a given time point/occasion/survey t (hereafter, “co-occurrence”), and the extent to which transitions occur across time points—that is, from time t to time $t + 1$ —from one behavior to another (hereafter, “switching”). Co-occurrence and switching have been discussed in the context of withdrawal (Hulin, 1991) and bullying/mobbing (Leymann, 1996). Co-occurrence (but not switching) also has been discussed in the context of the dimensions of CWB (Gruys & Sackett, 2003). However, until now, no empirical research has simultaneously studied OCB and CWB over time and examined co-occurrence and switching not only between OCB and CWB but also between various facets of OCB itself and various facets of CWB itself.

Within-person antecedents and consequences of OCB and CWB also were assessed to provide further insight into the OCB-CWB relationship. On the antecedent side, theory (Weiss & Cropanzano, 1996; Spector & Fox, 2002) suggests that mood states will be the immediate determinants of work behavior. Specifically, Spector and Fox proposed that OCBs and CWBs are responses to specific emotions that individuals experience. Their model predicted that the relationships between negative mood states and CWB, and those between positive mood states and OCB, would be stronger than the converse relationships. The current research tests this assertion.

On the consequences side, an important issue is how people arrive at judgments of overall job performance (Podsakoff, MacKenzie, Paine, & Bachrach, 2000; Rotundo & Sackett, 2002). Given that OCBs and CWBs are theorized to be important components of a person’s job performance, it is necessary to determine to what extent each of these behaviors contributes to overall performance. In order to address methodological shortcomings of previous research, the present research assesses how employees weigh their levels of OCB, CWB, and task performance in arriving at judgments of their own overall job performance.

Method

Participants were volunteers from a Midwestern community who responded to an advertisement placed in the local newspaper and on public announcement boards in the community. For inclusion in the research, participants were required to be employed full-time and have their immediate supervisor agree to their participation in the research. Individuals were paid up to \$100 for their participation, with the exact amount contingent upon the number of signals to which they responded.

The total sample size was 67 participants. The mean age of participants was 40.72 years ($SD = 10.26$ years). The majority of our sample was female (82.1%), and the mean job tenure was 6.22 years ($SD = 6.71$ years). Participants held a variety of jobs, such as administrative assistant, teacher, technician, manager, custodian, and customer service representative.

An ecological momentary assessment (EMA) approach was used. Participants were trained to use, and were provided with, a personal digital assistant (PDA) that they were asked to carry with them at work for 15 workdays. Participants completed a pre-programmed questionnaire on the PDA twice a day, once corresponding to the approximate mid-point of their workday, and again toward the end of their workday. Using the Purdue Momentary Assessment Tool (PMAT; Weiss, Beal, Lucy, & MacDermid, 2004), participants were asked to provide momentary reports of their mood, OCBs, CWBs, task performance, and overall job performance at random times within a pre-specified time interval. The average response rate across all participants was 89%.

When signaled by the PDA, participants completed a 52-item questionnaire measuring the following constructs:

Positive and Negative Affect

Items assessing mood were taken from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). Specifically, eight items from the PANAS were selected to reduce the perception of burden to the participants across the 3-week period (Beal & Weiss, 2003). Participants were asked to rate, on a 5-point scale, how intensely they experienced a given adjective since the last beep, from “not at all or very slightly” to “very intensely.” Items are “delighted,” “excited,” “concentrating” and “alert” (all Positive Affect; $\alpha = .79$), and “distressed,” “angry,” “discouraged” and “contempt” (all Negative Affect; $\alpha = .83$).

Organizational Citizenship Behavior (OCB) and Counterproductive Work Behavior (CWB)

A set of 36 questions assessing OCB and CWB was developed from a list of items culled from pre-existing measures of the constructs (Smith, Organ, & Near, 1983; Coleman & Borman, 2000; Morrison, 1994; Robinson & Bennett, 1995). Based on the suggestion of Kelloway et al. (2002), the items were chosen or developed so that no OCB or CWB items needed to be reverse-scored. In other words, all OCB items were “positively” worded whereas all CWB items were “negatively” worded. Moreover, items were selected to represent OCBs targeted towards the organization (OCB-O) versus those targeted towards individual co-workers (OCB-C) and the

supervisor (OCB-S). Likewise, items assessing CWBs were selected to assess behaviors targeted towards the organization (CWB-O) versus co-workers (CWB-C) and the supervisor (CWB-S). Participants were asked to respond “yes” or “no” to each item, based on whether or not they had engaged in each behavior since the last survey. Cronbach’s *alpha* was .87 for the OCB scale and .70 for the CWB scale. Sample items are “Went out of my way to include a co-worker in a conversation” (OCB-C) and “Spoke poorly about my supervisor to others” (CWB-S).

Task Performance

This was assessed using a 7-item measure developed by Williams and Anderson (1991). Participants were asked to respond “yes” or “no” to each item. Cronbach’s *alpha* was .66. A sample item is “I adequately completed assigned duties.”

Overall Job Performance.

Participants were asked to rate their overall job performance by responding to a single item using a 5-point scale (1 = low overall job performance to 5 = very high overall job performance).

Results

As mentioned previously, wherever possible we present the (simpler) descriptive statistics and within-person correlational analysis rather than the hierarchical linear model (HLM) analysis. The HLM analyses are provided in the Appendix.

Is a Substantial Proportion of the Variance in OCB and CWB Within, as Opposed to Between, People?

Results indicated that substantial proportions of variance in OCB (mean across facets = 52.1%) and CWB (mean = 69.5%) were within persons over time, rather than between people, indicating that work behavior was indeed highly volatile over time. The chart below depicts the percentage of within-person variance for each facet of OCB, CWB, positive affect (PA) and negative affect (NA), overall job performance, and task performance. Over the course of the three weeks, there was substantial within-person variability in the ratings of each of the constructs. This within-person variability indicates that these constructs are indeed dynamic, and should be studied as such—thereby justifying the within-person, experience-sampling approach used in this research.

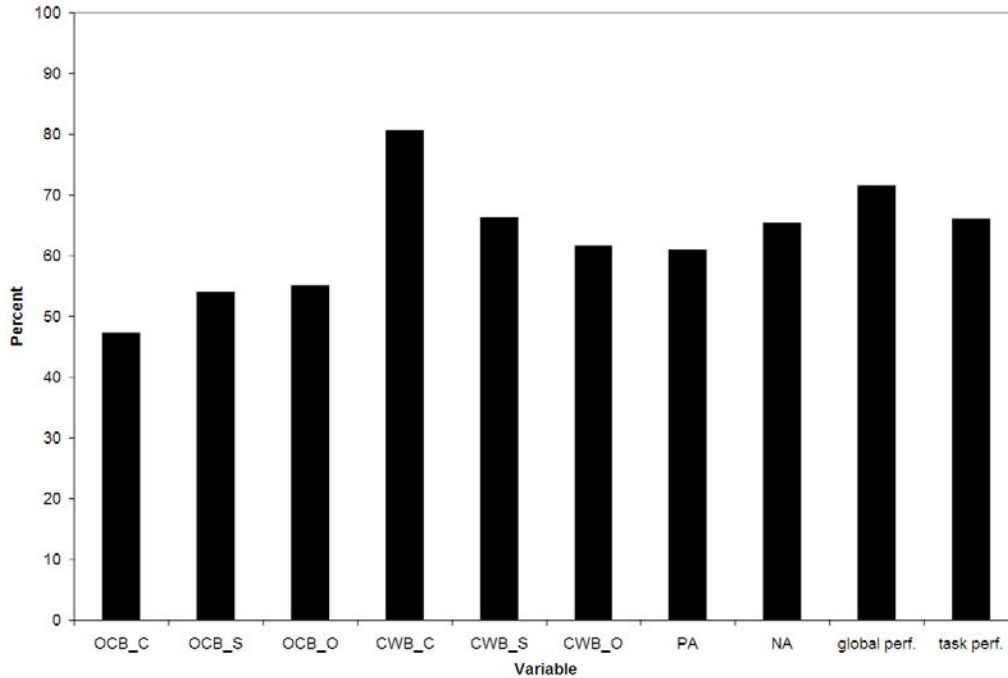


Figure 2. Percentages of within-person variance in constructs (Project 1).

Note. OCB = Organizational Citizenship Behavior. CWB = Counterproductive Work Behavior. C = Co-worker-directed. S = Supervisor-directed. O = Organization-directed. PA = Positive Affect. NA = Negative Affect.

Can OCB and CWB Co-Occur for a Person Within a Short Interval of Time, and Can a Person Switch From Engaging in OCB in One Time Period to Engaging in CWB in the Next (or Vice Versa)?

With regard to co-occurrence and switching, strong positive OCB-CWB relationships would imply that co-occurrence and switching occur frequently, whereas strong negative relationships would imply that co-occurrence and switching are rare.

In order to assess the degree of co-occurrence of OCB and CWB within the same time occasion, concurrent (i.e., Lag 0) correlations were estimated. As can be seen in the table below, the concurrent correlations between OCB and CWB were relatively small, ranging from -0.30 to +0.11 (mean $r = -0.03$). This implies that, at a given time frame, a person's level of OCB did not tell us anything about his or her level of CWB within that same time frame, and vice versa. In other words, co-occurrence and switching were neither very high nor very low, but rather were at chance levels.

However, there is one exception to these results. Employees' reports of their OCBs directed toward their organization were non-trivially (in terms of the magnitude of effect size) negatively related to the occurrence of CWBs directed toward their supervisor during the same time interval ($r = -0.30$). This implies that an employee was less likely to express both a

citizenship behavior and a counterproductive behavior directed toward his or her organization within a very short time frame.

Table 1
Behavioral Co-Occurrence of OCB and CWB

	OCB-C	OCB-S	OCB-O
CWB-C	0.11	0.07	0.01
CWB-S	0.05	-0.06	-0.04
CWB-O	-0.04	-0.08	-0.30

In order to determine the degree of behavioral switching, we examined the correlations between neighboring time points of OCB and CWB. In other words, we examined the correlations between OCB_t and CWB_{t+1} (i.e., an OCB facet measured at time t and a CWB facet measured at time $t + 1$). We also examined the correlations between CWB_t and OCB_{t+1} . Theoretically, the OCB_t - CWB_{t+1} correlations need not be identical to the CWB_t - OCB_{t+1} correlations—that is, theoretically, people may switch from an OCB facet to a CWB facet to a greater or lesser extent than they switch from a CWB facet to an OCB facet. In practice, however, there was little difference.

The relevant correlations, presented in Table 2, indicate that the level of OCB at time t told us virtually nothing about the level of CWB at time $t + 1$, and vice versa. For example, the correlations between OCB_t and CWB_{t+1} for behaviors targeted towards co-workers, supervisor, and organization ranged from -.13 to +.07 (mean = -.01). Similarly, the correlations between CWB_t and OCB_{t+1} , presented in Table 3, ranged from -.12 to +.07 (mean = -.01). Therefore, switching from OCB to CWB, and from CWB to OCB, was at chance levels. In other words, the behavioral switching (Lag 1) results were commensurate with the behavioral co-occurrence (Lag 0) results presented previously.

Table 2
Behavioral Switching From OCB_t to CWB_{t+1}

		Time $t+1$		
		CWB-Co-worker	CWB-Supervisor	CWB-Org
Time t	OCB-Co-worker	0.07	0.02	0.00
	OCB-Supervisor	0.07	-0.06	-0.04
	OCB-Org	0.03	-0.05	-0.13

Table 3.
Behavioral Switching From CWB_t to OCB_{t+1}

		Time $t+1$		
		OCB-Co-worker	OCB-Supervisor	OCB-Org
Time t	CWB-Co-worker	0.07	0.05	0.02
	CWB-Supervisor	0.04	-0.03	-0.03
	CWB-Org	-0.02	-0.04	-0.12

Overall, then, the obtained OCB-CWB correlations were trivial (mean $r = -0.03$ for co-occurrence and -0.01 for switching). That is, the level of either of these behavior types could not be predicted from the level of the other behavior type at either the same time point (co-occurrence) or the previous time point (switching). Thus, OCB-CWB relationships at the within-person level may be even weaker than those at the between-person level. In fact, at the within-person level, OCB and CWB are effectively orthogonal.

In contrast to the relationship between OCB and CWB, the co-occurrence of, and switching between, various OCB facets (i.e., OCB directed toward co-worker(s), the supervisor, and the organization) was high (mean $r = +0.56$ for co-occurrence and $+0.42$ for switching). This implies that the levels of one OCB facet could be predicted via the levels of other OCB facets at the same, or an adjacent, time point. The same was true, albeit to a lesser extent, for CWB facets (mean $r = +0.27$ for co-occurrence and $+0.22$ for switching).

These correlations are presented in Tables 4-7.

Table 4
Behavioral Co-Occurrence of OCB Facets

	OCB-Co-worker	OCB-Supervisor	OCB-Org
OCB-Co-worker	1.00		
OCB-Supervisor	0.60	1.00	
OCB-Org	0.56	0.53	1.00

Table 5
Behavioral Switching Between OCB_t and OCB_{t+1}

		Time $t+1$		
		OCB-Co-worker	OCB-Supervisor	OCB-Org
Time t	OCB-Co-worker	0.54	0.39	0.37
	OCB-Supervisor	0.38	0.50	0.35
	OCB-Org	0.40	0.35	0.47

Table 6
Behavioral Co-Occurrence of CWB Facets

	CWB-Co-worker	CWB-Supervisor	CWB-Org
CWB-Co-worker	1.00		
CWB-Supervisor	0.28	1.00	
CWB-Org	0.23	0.29	1.00

Table 7
Behavioral Switching Between CWB_t and CWB_{t+1} Facets

		Time $t+1$		
		CWB-Co-worker	CWB-Supervisor	CWB-Org
Time t	CWB-Co-worker	0.29	0.12	0.14
	CWB-Supervisor	0.09	0.44	0.17
	CWB-Org	0.13	0.19	0.40

Inspection of Tables 5 and 7 (i.e., the Tables summarizing the switching results) yields another, not completely unexpected, finding. An OCB facet was more likely to “switch” to itself rather than to switch to another OCB facet. For example, the $OCB-C_t$ - $OCB-C_{t+1}$ correlation was greater than the $OCB-C_t$ - $OCB-S_{t+1}$ and $OCB-C_t$ - $OCB-O_{t+1}$ correlations. The same was true of CWB. This illustrates that, although OCB and CWB exhibited considerable within-person variability, this variability was not complete—that is, some amount of within-person stability remained.

Co-occurrence and switching also were examined *simultaneously*, via hierarchical linear modeling. The conclusions from these analyses were identical to those from the analysis of lagged within-person correlations (presented above).

Does Mood (Positive Affect and Negative Affect) Predict OCB and CWB Within Persons Over Time?

With regard to antecedents of the behaviors, results indicated that mood states (measured using positive and negative affect—PA and NA, respectively) were related in opposite directions to OCB and CWB, regardless of whether relationships were examined within the same time point (co-occurrence) or at adjacent (lagged) time points. Specifically, as can be seen in the Tables below, $OCB-C$, $OCB-S$, and $OCB-O$ (i.e., OCB directed toward co-worker(s), the supervisor, and the organization) were positively related to PA but only very weakly negatively related to NA; in contrast, $CWB-C$ and $CWB-S$ were positively related to NA but only very weakly negatively related to PA ($CWB-O$ was the exception, with the opposite pattern of relationships). These results generally support Spector and Fox’s (2002) contention that PA-OCB and NA-CWB relationships are stronger than PA-CWB and NA-OCB relationships.

Table 8
Co-Occurrence of Mood and OCB

	OCB-Co-worker	OCB-Supervisor	OCB-Org
Positive Affect	0.40	0.37	0.51
Negative Affect	-0.13	-0.11	-0.13

Table 9
Lagged Relationships Between Mood_t and OCB_{t+1}

		Time $t+1$		
		OCB-Co-worker	OCB-Supervisor	OCB-Org
Time t	Positive Affect	0.29	0.24	0.30
	Negative Affect	-0.10	-0.08	-0.07

Table 10
Co-Occurrence of Mood and CWB

	CWB-Co-worker	CWB-Supervisor	CWB-Org
Positive Affect	-0.04	-0.05	-0.29
Negative Affect	0.22	0.24	0.12

Table 11
Lagged Relationships Between Mood_t and CWB_{t+1}

		Time $t+1$		
		CWB-Co-worker	CWB-Supervisor	CWB-Org
Time t	Positive Affect	-0.02	-0.03	-0.14
	Negative Affect	0.08	0.17	0.06

How Do People Weigh Their OCB, CWB, and Task Performance When Judging Their Global Job Performance?

With regard to consequences, results from an HLM analysis indicated that global job performance was significantly predicted by (in descending order of predictor importance/strength): OCB toward the organization, CWB toward the organization, and task performance. OCB and CWB toward co-workers and the supervisor were not significantly associated with self-ratings of global job performance. It thus appears that employees consider their behavior directed toward the organization itself, but not their behavior directed toward co-workers or even the supervisor, as relevant to their own overall job performance.

Discussion

The results of this research further our understanding of the structure between various aspects of job performance (i.e., OCB and CWB), and their antecedents and consequences. First, we found that there was a great deal of volatility in people's OCB, CWB, task performance, and mood over the course of the three-week study, supporting the view that these are dynamic constructs and ought to be studied as such (i.e., within persons over time).

Second, our results showed that the level of OCB at one time point was not meaningfully related to the level of CWB at either the same or an adjacent time point. Thus, the relationship between OCB and CWB is extremely weak at the within-person level. However, when we examined the co-occurrence and switching between various facets of OCB, and between various facets of CWB, these occurred relatively frequently. That is, an employee's demonstration of

OCB is positively related to his or her demonstration of other types of OCB at either the same time point or the next time point. The same was true of CWB. One implication is that organizations will need to address the underlying causes of both OCBs and CWBs: prescribing the expression of OCBs will not automatically lead to a reduction in CWBs, nor will proscribing CWBs automatically lead to more OCBs. A second and related implication is that there are, in fact, several opportunities for leaders to “prime” positive behaviors. By creating situations where Soldiers have opportunities to help each other (e.g., team-building tasks), organizations may foster an environment to promote the continued expression of positive behaviors towards others. Likewise, situations where counterproductive work behaviors are expressed need to be promptly discouraged; otherwise, the expression of one CWB will likely lead to another CWB. Thus, organizations need to be mindful of being consistent in both promoting OCBs and discouraging CWBs.

The results from this project also have important implications for the selection process of employees. Implementing a selection system to screen out applicants who would be prone to displaying CWB would not necessarily guarantee that all the selected candidates would display OCB once selected. Given that the results indicated that the level of OCB could not be predicted from the level of CWB within persons over time, this means that knowing that a person will perform a CWB tells us nothing about whether he or she will perform an OCB, and vice versa. Therefore, if the goal is to select employees who will perform OCBs and not CWBs, then it will be necessary to implement selection tests for both behaviors rather than a single test alone.

It is important to note, however, that even well-designed selection systems can provide at best a partial solution. Our results indicate that large percentages of the variance in OCB and, especially, CWB are due to within-person, rather than between-person, causes. Thus, selection systems must be reinforced with situational interventions initiated by the leadership.

The findings from our research also advance our understanding of the relationship between employees’ mood and performance. Specifically, as predicted by Spector and Fox (2002), we found that positive mood was strongly related to OCB, and that negative mood was strongly related to CWB. These findings support the notion that employees’ performance and emotions may be inextricably linked, and have important implications for the management of emotions in the workplace. Given that people’s moods and behaviors are transient in nature, it is important for supervisors and organizations to create and manage an environment that would promote employees’ positive emotions (or at least minimize negative emotions) as an effective tool for managing their discretionary work behaviors. Possible emotional effects on employees should be considered when forming policies and practices, and leaders should be selected and trained on their ability to recognize and shape others’ emotions. Given that positive affect was positively and strongly related to OCBs, and negative affect was positively and strongly related to CWBs, it is important that leaders recognize the emotional consequences of situations on their subordinates and be able to foster an environment where negative emotions are dealt with immediately so as to discourage the expression of CWBs.

In addition, our research highlights the importance of discretionary behaviors in arriving at judgments of overall job performance. Rather than being predicted solely by task performance (as assumed by traditional job performance theories), overall job performance was in fact best

predicted by OCB and CWB toward the organization. Organizations will benefit by recognizing the existence of multiple aspects of performance, and by evaluating each of these aspects separately. Moreover, having a multi-faceted approach to overall job performance allows for training in multiple areas. Beyond establishing the importance of non-task-related aspects of performance even in a within-person framework, our research suggests the importance of modeling the “folk theories” of both leaders and employees concerning the composition of effective overall performance. Specifically, a mismatch between leaders’ and employees’ beliefs is a recipe for misunderstanding and conflict. For example, our results suggest that employees do not view their co-worker-related or even supervisor-related OCB and CWB as being relevant to their overall job performance. However, leaders or supervisors are likely to take a broader view of their employees’ job performance (Tepper, Lockhart, & Hoobler, 2001). These misunderstandings can be reduced by not only having regular performance appraisals, but also by making very explicit the criteria on which performance will be assessed.

Finally, despite the EMA design, a limitation of the present project, as well as those reported subsequently, is that causal conclusions must necessarily be tentative because the data continue to be correlational.

Project 2: Non-Work Antecedents and Behavioral Consequences of Affect and Attentional Resources

Statement of Research Problem

An Episodic Performance Model

In an effort to resolve the disconnect between the transient nature of affect and the more traditional static conceptions of performance, Beal et al., (2005) proposed a model of episodic performance that links affective experiences to within-person performance. The basic premise of this model is that individuals’ workdays consist of performance episodes that compete with affect episodes for attentional resources, influencing attentional focus and also behavioral styles relevant to effective task accomplishment. These performance episodes are “behavioral segments that are thematically organized around organizationally relevant goals or objectives” (p. 1055).

People’s performance is partly determined by their capacity to devote their cognitive, attentional resources to the problem at hand (Kanfer, Ackerman, Murtha, Dugdale, & Nelson, 1994). Successful task accomplishment will be facilitated by focused attention to the task (Hirst & Kalmar, 1987; Kahneman, 1973); however, if attention and resources are focused elsewhere, performance will suffer (Speier, Valacich, & Vessey, 1999). These cognitive resources are thought to be a finite resource that is taxed when individuals are faced with multiple activities (Schneider & Fisk, 1982). Consequently, any off-task thoughts, whether they are due to emotional experiences or other work-related matters, can hinder performance during the course of a performance episode. For example, work-Family issues, stress, or lack of interest in one’s job all create task-irrelevant thoughts that interfere with episodic performance. Interruptions or any off-task attentional demands can have an affective tone to them, and can generate additional thoughts long after the cause of the interruption has dissipated (Klinger, 1996).

In the context of episodic performance, self-regulation is the process that determines whether people can and will focus their resources on accomplishing the primary work task in the face of demands that would normally divert their attentional focus. Baumeister, Muraven, and their colleagues (Baumeister & Exline, 1999; Baumeister, Muraven, & Tice, 2000; Muraven & Baumeister, 2000) have demonstrated that efforts at self-regulation are more successful after a period of sufficient rest. Through multiple regulatory activities, these resources become depleted. Renewal of the resources can come only with time and rest. Beal et al. (2005) argue that the relative levels of regulatory resources will play a large role in influencing episodic performance. The capacity to regulate attention toward the task at hand will fluctuate in accordance with this resource.

Given that cognitive resources are finite, on-task focus competes with off-task demands such as affective states. According to Beal et al. (2005), affective states redirect attentional focus from the task to circumstances surrounding the affective experience. This redirection will often be detrimental to job performance due to demands involving the appraisal of the affective event, rumination over the affective experience long after its occurrence, experience of arousal affecting the capacity to effectively process work-relevant information, and/or the process of cognitively re-evaluating the affective experience and regulating it. For example, a person may have difficulty focusing on a work task for several hours after receiving a telephone call from the child-care center indicating that his or her child is slightly ill. Effort exerted towards regulating these affect episodes will deplete the regulatory resources, eventually causing performance to suffer as a result.

Insufficient and/or poor quality sleep may play a role in depleting resources, which in turn affects mood and behavior. Research indicates that sleep deprivation strengthens the relationship between negative events and negative emotions but weakens the relationship between positive events and positive emotions, that it decreases the inhibition of aggression, and that it decreases behaviors that typically lead to high-quality social interaction (Kahn-Greene et al., 2006; Totterdell et al., 1994; Zohar et al., 2005).

However, there is evidence to suggest that regulatory resources are renewable and can be recovered with time and/or through replenishing activities. Research has examined the effect of vacations, days off, and brief on-the-job breaks on affective and performance-relevant outcomes. For example, Westman and Eden (1997) found that when clerical employees took a vacation, their symptoms of burnout declined over the course of the vacation, although the symptoms returned to pre-vacation levels shortly after returning to work. In addition, Sonnentag and her colleagues (Fritz & Sonnentag, 2004; Sonnentag, 2003) have documented a general positive influence of recovery on work engagement and proactive behavior, although this depends on what occurs during the recovery period. Similarly, sufficient and high-quality sleep at night may aid in resource replenishment.

Testing the Model

Despite previous work linking affective experiences and performance (see Brief & Weiss, 2002, for a review), the episodic process model of affective influences on performance has yet to be tested. Furthermore, although Beal et al. (2005) did not mention the specific domain of job performance with which their model was concerned, job performance has been conceptualized as consisting of task and contextual performance, both of which would require regulatory resources for effective performance.

Extending episodic performance to the realm of contextual performance is supported by recent research by Mayer and Gavin (2005). In an effort to link trust in management with performance, Mayer and Gavin had hypothesized that those employees who were unwilling to trust the management and its leadership would be less able to contribute to the organization because of the time and energy devoted to self-preserving activities. In other words, a lack of trust diverts the employee's attention away from activities that contribute to his or her organization, including organizational citizenship behaviors. Results (albeit cross-sectional) from their research supported the hypothesis that the employee's capacity to focus attention on value-producing activities mediated the relationship between trust in management and OCB. These findings further support the prediction from the model of Beal et al. of episodic performance that, to the extent that a person's regulatory resources are depleted due to off-task activities, fewer resources will be devoted to one's job performance, both task and contextual, resulting in poor performance.

The current research was designed to test some of the propositions put forth by the episodic process model of affective influences on performance using the method of ecological momentary assessment (EMA). In order to capture participants' experiences in their natural work environment and to determine the within-person variation in performance episodes, individuals were asked to complete surveys over the course of their workday. However, to assess whether non-work events were related to affective experiences at work, participants were surveyed at home. Specifically, the extent to which they were able to engage in non-stressful activities was assessed. If stressful non-work events "spills over" into the workplace realm, as some work-Family conflict research would suggest (see Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Frone, 2003), then these events may represent off-task attentional demands affecting performance at work by depleting regulatory resources. Yet, the existing empirical research on spillover has largely been cross-sectional and therefore, we argue, has failed to provide sufficient insight into this dynamic, within-person, process.

In addition, the current research assessed people's cognitive resources at work. Participants were asked to provide self-reports of their level of cognitive weariness—that is, the degree to which they felt they were (un)able to focus their attention. Furthermore, the EMA technique allowed for multiple self-reports of affect, OCB, CWB, and overall job performance during the course of each workday in order to assess whether affect influences job performance through the availability of cognitive resources. Moreover, as previously alluded to, we examined the extent to which non-work-related events—such as the experience of stressful events at home, and the amount and quality of sleep—affected performance and cognitive resources at work.

Method

Participants

Participants were 54 volunteers from a Midwestern college town in the United States who responded to an advertisement placed in the local newspaper and on public announcement boards in the community. For inclusion in the research, participants had to be employed full-time and have their immediate supervisor agree to their participation in the research. Individuals were paid up to \$95 for their participation in the research, with the exact amount contingent upon the number of surveys they completed. Over four-fifths (83.3%) of the sample was female, the mean age was 40.34 years ($SD = 10.46$ years), and the mean job tenure was 6.2 years ($SD = 6.7$ years).

Procedure

For 10 workdays, participants were prompted to complete a pre-programmed questionnaire four times during their workday: at approximately the beginning of their workday (survey 1), at approximately the middle of their morning (survey 2), at approximately the middle of their afternoon (survey 3), and at approximately the end of their workday (survey 4). Participants were asked to complete an additional survey prior to going to bed (survey 5). The following is a summary of the questionnaires administered at each survey:

Survey 1: Mood, Cognitive Weariness, Sleep Behaviors

Survey 2: Mood, Cognitive Weariness, OCB, CWB, Global Job Performance

Survey 3: Mood, Cognitive Weariness, OCB, CWB, Global Job Performance

Survey 4: Mood, OCB, CWB, Global Job Performance

Survey 5: Mood, Evening Stressors

Content of Handheld Survey

Items within each of the measures were presented in a different random order on each survey.

Mood. Items assessing mood were taken from the affect circumplex (Feldman-Barrett & Russell, 1998). Eight items were chosen to represent the two dimensions of valence (i.e., positive and negative affect). For example, “relaxed” and “calm” represented positive affect while “upset” and “irritable” represented negative affect. Participants were asked to rate on a 5-point scale (“not at all” to “extremely”) the extent to which each affect word described how they felt since the last survey. Cronbach’s *alpha* was .68.

Cognitive weariness. Seven items assessing participants’ level of cognitive weariness were taken from the Shirom-Melamed Burnout Measure (SMBM; Melamed, Kushnir, & Shirom, 1992). Participants responded to each item using a 5-point rating scale (1 = “not at all true” to 5 = “completely true”) to report the extent they experienced “difficulty concentrating,” “difficulty thinking about complex things,” or were “too tired to think clearly,” for example. Cronbach’s *alpha* was .96.

Sleep behaviors. Participants were asked to report how many hours of sleep they experienced the night before. They also rated the quality of their sleep using a 5-point rating scale (1 = “very poorly” to 5 = “very well”).

OCB and CWB. OCB and CWB were measured using six and eight items, respectively, adapted from a variety of sources (Smith, Organ, & Near, 1983; Coleman & Borman, 2000; Miner, Glomb, & Liao, 2002; Gruys & Sackett, 2003; Bennett & Stamper, 2001; Robinson & Bennett, 1995; Kelloway et al., 2002). Items were selected to represent behavior targeted toward other individuals in the organization (OCB-I and CWB-I) and toward the organization as a whole (OCB-O and CWB-O). Participants responded “Yes” or “No,” depending on whether they had engaged in a particular behavior since the last survey. Cronbach’s *alpha* was .69 for OCB and .25 for CWB. An example of an OCB item included, “I worked hard with extra effort,” whereas “intentionally worked slowly” and “used company resources or equipment for personal use” are sample items assessing CWB.

Global job performance. Participants were asked to rate their overall performance relative to their personal average (1 = “far below my personal average” to 5 = “far above my personal average”). The fact that this is a *relative* measure of performance (e.g., the below-average performance of a good performer might be higher than the above-average performance of a poor performer) does not matter, because the analyses are conducted at the within-person level.

Evening stressors. A measure of evening stressors was adapted from Bolger, DeLongis, Kessler, and Schilling (1989) to determine the extent to which certain evening activities had an impact on participants. Participants were presented with a list of 10 activities, such as “brought work home,” “dealt with a financial problem,” or “argued with my spouse/partner.” For each event, participants were asked to rate what effect each had using a 6-point rating scale (0 = “this event did not occur this evening,” 1 = “this event occurred this evening but did not have any effect,” to 5 = “this event occurred this evening and had quite a bit of effect”). Cronbach’s *alpha* was .74.

In order to examine sequential relationships (e.g., behaviors at one time point predicting affect at the next time point), lagged variables were created for affect and behaviors. Data were analyzed using hierarchical linear modeling (HLM), which accounts for the non-independence of repeated measures within persons (Raudenbush & Bryk, 2002)—in this case, the fact that surveys were nested within respondents. Level-one variables included the EMA (i.e., within-person) data, and level-two variables represented the person level (i.e., between-person level) data. Additionally, three-level HLM models were used to test the influence of day-level variables (i.e., sleep and evening stressors) because here surveys were considered to be nested within days, which were themselves nested within respondents. However, to increase the accessibility of results, in the following section we mostly summarize the results in terms of descriptive statistics and within-person correlations rather than the HLM analyses (which are instead provided in the Appendix).

Results

Is a Substantial Proportion of the Variance in OCB, CWB and Other Constructs Within, as Opposed to Between, People?

Results indicated that substantial proportions of variance in OCB (mean across facets = 58.1%) and CWB (mean = 68.2%) were within persons over time, rather than between people, indicating that work behavior was indeed highly volatile over time. The chart below depicts the percentage of within-person variance for each facet of OCB and CWB, overall job performance, cognitive weariness, and positive and negative affect. Over the course of the two weeks, there was substantial within-person variability in the ratings of each of the constructs. Specifically, in all cases more than 50% of the overall variance in a construct was within-person variance.

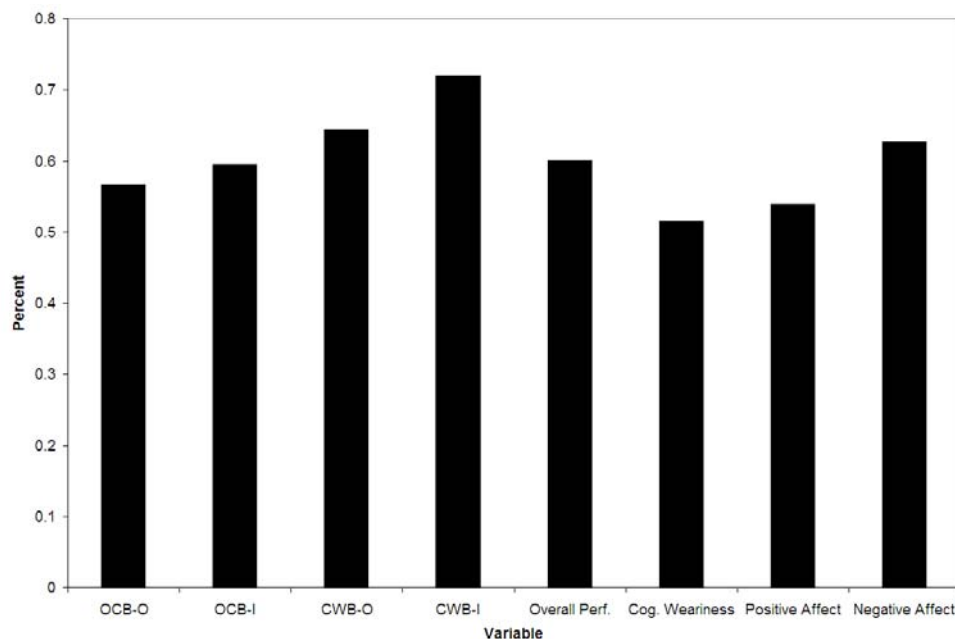


Figure 3. Percentages of within-person variance in constructs (Project 2).

Note. OCB = Organizational Citizenship Behavior. CWB = Counterproductive Work Behavior. O = Organization-directed. I = Individual-directed.

Is Job Performance Related to the Experiences of Affect and Cognitive Weariness?

Given that some variables were measured at multiple points during the course of a workday, two types of analyses could be performed to determine the extent to which affect and cognitive weariness were significantly related to performance. First, concurrent relationships, or the extent to which variables measured at the *same* time point are related to one another, could be determined. For example, the concurrent analyses examined whether affect and cognitive weariness measured during the morning at work predicted performance during the same time interval. The results revealed that positive affect was negligibly related to the occurrence of both types of OCB, both types of CWB, and task performance. Negative affect was related positively

to both types of CWB and negatively to overall performance and OCB-O, but was only trivially related to OCB-I. Additionally, the greater levels of cognitive weariness an individual reported, the more CWB behaviors, but fewer OCB behaviors and lower overall job performance, he or she reported.

Table 12

Concurrent Relationships Between Affect, Cognitive Weariness, and Performance

	OCB-I _t	OCB-O _t	CWB-I _t	CWB-O _t	Overall Performance _t
Positive Affect _t	-.02	.01	-.05	.05	-.04
Negative Affect _t	-.02	-.12	.15	.14	-.17
Cognitive Weariness _t	-.11	-.19	.07	.14	-.11

Given that affect, cognitive weariness, and performance were assessed at multiple points during a workday, lagged relationships also were examined. In other words, the extent to which affect and cognitive weariness measured at a particular time point (e.g., morning at work) predicted performance at a *later* time point (e.g., after lunch at work) was examined. These lagged analyses revealed that cognitive weariness was negatively related to subsequent OCB of both types, and to overall job performance. As the lagged correlations in Table 13 also indicate, the experience of negative affect is positively related to the occurrence of subsequent CWB of both types.

Table 13

Lagged Relationships Between Affect, Cognitive Weariness, and Performance

		Time <i>t</i>				Overall Performance
		OCB-I	OCB-O	CWB-I	CWB-O	
Time <i>t-1</i>	Positive Affect	.02	.07	-.04	.04	-.05
	Negative Affect	.00	-.07	.12	.11	-.10
	Cognitive Weariness	-.10	-.17	.04	.09	-.10

What Is the Relationship Between Affect and Cognitive Weariness? Does Affect Lead to Cognitive Weariness?

To explore the extent to which affective episodes might deplete cognitive resources, the concurrent and lagged relationships between affect and cognitive weariness were examined. The concurrent analyses revealed that experiencing positive affect was related negatively to cognitive weariness, whereas negative affect was related positively to cognitive weariness.

The lagged analyses indicated strong connections between positive affect at time *t-1* and itself at time *t*, negative affect at time *t-1* and itself at time *t*, and, especially, cognitive weariness at time *t-1* and itself at time *t*. More interestingly, the lagged analyses indicated slightly stronger

relationships between cognitive weariness at time $t-1$ and positive and negative affect at time t than between positive and negative affect at time $t-1$ and cognitive weariness at time t . Though this does not rule out affect→weariness relationships, it does provide slightly more support for weariness→affect relationships.

Table 14

Concurrent Relationships Between Affect and Cognitive Weariness

	Positive Affect	Negative Affect
Cognitive Weariness	-.26	.54

Table 15

Lagged Relationships Between Affect and Cognitive Weariness

		Time t		
		Positive Affect	Negative Affect	Cognitive Weariness
Time $t-1$	Positive Affect	.55	-.21	-.15
	Negative Affect	-.20	.44	.36
	Cognitive Weariness	-.20	.41	.74

Does Cognitive Weariness Mediate the Relationship Between Affect and Job Performance?

The mediating role of cognitive weariness in the relationship between affect and performance was examined in a series of hierarchical linear models. Separate models were tested with either positive or negative affect as the predictor. Additionally, separate models were run for each of the following performance criteria: OCB-I, OCB-O, CWB-I, CWB-O, and overall job performance. Although there is no formal test to determine mediation in hierarchical linear models (the Sobel test does not hold precisely in the case of multilevel models, and should therefore be considered as an approximation; Kenny, Korchmaros, & Bolger, 2003), the results of the models provided support for the hypothesis that cognitive weariness mediated the relationship between positive/negative affect and OCB-O, as well as positive/negative affect and overall job performance. In other words, the relationship between positive/negative affect and overall job performance can be partially explained by the experience of cognitive weariness. However, as mentioned previously, it also may be the case that affect mediates the relationship between cognitive weariness and job performance.

Do Non-Work Experiences Have an Effect on Performance and Affect at Work?

Whether non-work experiences were related to performance at work was explored through a series of hierarchical linear models. Specifically, we examined the extent to which one's performance and affect at work during the morning were influenced by the quality and quantity of sleep during the previous night as well as the experience of stressors during the previous evening. In other words, sleep quality, sleep quantity, and the experience of stressors at

home were used as predictors of OCB, CWB, overall job performance, affect, and cognitive weariness assessed at work the next day.

The results revealed that a person's overall job performance during the morning at work was positively related to the quality of sleep he or she experienced the night before. Additionally, greater positive affect experienced at work during the morning was positively associated with better overall sleep quality the night before. On the other hand, greater levels of negative affect at work during the morning were associated with fewer hours of sleep, poorer quality of sleep, and more stressors experienced the previous evening. Similarly, increased cognitive weariness at work the next morning was associated with fewer hours of sleep and poor quality of sleep the previous night.

Do Non-Work Experiences Moderate the Relationship Between a Person's Level of Cognitive Weariness and Performance at Work?

Three-level hierarchical linear models were tested to determine whether the strength of the relationship between cognitive weariness and performance at work varied as a function of a person's non-work experiences. In these models, performance at work was operationalized as OCB-I, OCB-O, CWB-O, CWB-I, or overall performance. These models allowed us to determine the extent to which the relationship between cognitive weariness and performance was influenced by sleep quality, sleep quantity, or the experience of stressors during non-work time. The results of these analyses revealed that neither sleep quality nor quantity the previous night affected the relationship between performance and cognitive weariness. However, the experience of stressors during the previous evening influenced the relationship between CWB-O and cognitive weariness. Specifically, the greater the amount of stressors experienced the previous evening, the weaker the relationship between cognitive weariness and CWB-O at work the next day.

Discussion

Overall, the results of this research provide preliminary evidence that affect and cognitive resources are related to each other. Additionally, individuals' performance at work, as conceptualized as OCB, CWB and overall job performance, is related to their capacity to focus attention on their work (as operationalized by a lack of cognitive weariness), a capacity that varies through the course of the workday. When individuals felt they had more cognitive resources to devote to their work, they reported more OCB-O and higher overall job performance. Moreover, these effects were found for both concurrent and lagged relationships.

While previous research has linked job performance to experiences of affect, the present results suggest that this relationship may partially be explained by people's cognitive resources. Specifically, we found that experiences of affect, either pleasant or unpleasant, were related to cognitive weariness, which, in turn, was related to OCB-O, CWB-O, and overall performance. This may imply that one's mood, whether positive or negative, serves as a distracter such that individuals may devote cognitive resources to regulating their emotion, resources that could otherwise be devoted to their work.

However, the present research was unable to clearly isolate the order of causality. Thus, it is also possible that cognitive weariness influences mood (rather than the other way around), which in turn influences behavior. In other words, lapses in concentration, feelings of mental exhaustion, etc., may lead to worse mood, which may then lead to more CWB and worse overall job performance. Other possibilities include: (1) mood and cognitive weariness causing each other *reciprocally*, and (2) the relationship being an example of spurious correlation (perhaps with both mood and cognitive weariness being caused by some third construct). Future research should therefore attempt, perhaps via true laboratory-experimental research designs, to investigate whether mood causes cognitive weariness, or vice versa, or both (reciprocal causation), or neither (spurious correlation).

The results of the present research also suggest that cognitive resources can be replenished (e.g., via sleep), and that, when they are, more resources may be devoted to performance at work. Accordingly, employees should be given the opportunity to replenish their cognitive resources by taking work breaks and vacations. For example, employees should be encouraged to take all their allotted days of annual leave, and they should be discouraged from working through their lunch breaks.

The study of work breaks is not new (see, e.g., McGehee & Owen, 1940); rather, what the present research contributes is a focus on self-regulation as the within-person mechanism by which work breaks prove beneficial. This approach suggests several avenues of future research. For example, while holding constant the total amount of time taken on work breaks during the course of a workday, researchers could examine whether work breaks are more beneficial when provided on a regular basis or on an “as and when needed” basis—that is, when employees experience cognitive (or physical) weariness.

Furthermore, the results suggest a significant role for sleep in terms both of its quality and quantity. Sleep was found to exert a main effect (though no interactive effect) on cognitive weariness, affect, and overall job performance the next morning. The fact that sleep is associated with such important outcomes suggests that, for employees (and their organizations), the importance of a good night’s sleep cannot be overstated. From a research perspective, sleep is understudied in I/O psychology; future research should attempt to rectify this lacuna. In psychology more generally, it would be desirable to see more theory on the impact of sleep from the perspective of the self-regulation of attentional resources.

Finally, a limitation of this project is the extremely low reliability of the CWB scale. This appeared to be due to very low endorsement of several CWB items. In general, this raises the question of whether or not the within-person factor structure of CWB mirrors the between-person structure (e.g., Fuller, Stanton, Fisher, Spitzmüller, Russell, & Smith, 2003). Overall, however, despite the fact that low reliability should attenuate the magnitudes of relationships, we found that CWB continued to be related to many other constructs at the within-person level.

Project 3: Experiencing and Instigating Incivility Over Time

Statement of Research Problem

One challenge with studying counterproductive workplace behaviors (CWBs) is the apparent low base-rate of occurrence of these behaviors (Dalal, 2003; Miner, 2001). However, CWBs can be classified according to their seriousness (Robinson & Bennett, 1995), and although serious behaviors like sabotage and “going postal” fortunately occur very infrequently, other, less serious, behaviors, such as arguing with a co-worker, are likely to occur more often. Accordingly, this research focused on these more frequent but less serious behaviors, some of which fall under the ambit of “incivility.” Workplace incivility is defined as a social interaction that is “low-intensity deviant behavior with ambiguous intent to harm the target, in violation of workplace norms for mutual respect” (Andersson & Pearson, 1999, p. 457). Examples of experienced incivility are being subjected to rudeness, being excluded from activities, and having one’s credibility undermined in front of others (Pearson, Andersson, & Porath, 2000).

Andersson and Pearson (1999) presented a spiral of incivility where experiencing incivility leads in turn to the enaction or performance of incivility, and this dynamic interchange of behaviors can eventually lead to more serious deviant or counterproductive behaviors. However, to date, incivility research has not fully explored the process and has used only cross-sectional measures that ask participants to recall incivility over periods ranging from 1 to 5 years, despite the dynamic theoretical model of spiraling behaviors. [Blau and Andersson (2005) did conduct a longitudinal investigation, but participants were still asked yearly to recall incivility over the past 12 months.] No ecological momentary assessment (EMA; Beal & Weiss, 2003) research has been conducted, so incivility in real time within people has not been studied. Given that human recall is subject to several biases and errors (e.g., Kahneman, 1999; Robinson & Clore, 2002), we would expect that EMA research can provide more precise estimates (relative to traditional, retrospective research) of the frequency of occurrence of incivility.

As noted previously, some researchers (Blau & Andersson, 2005) have differentiated between experiencing (i.e., receiving) and instigating incivility. Because the interplay between experiencing and instigating incivility is inherently dynamic rather than static, the present research used EMA to investigate the results of receiving or experiencing uncivil behaviors. Does experiencing incivility lead to the subsequent enaction of incivility, or to the enaction of other negative behaviors such as interpersonal withdrawal, or both, or neither? Is the process mediated by state affect?

Not surprisingly, Pearson, Andersson, and Wegner (2001) found that negative affect was a common response to the experience of incivility. Since affect (negative or positive) is believed to be a proximal cause of behavior (Weiss & Cropanzano, 1996), it is expected that experiencing incivility will lead to other negative behaviors (Fox and Spector, 1999; Spector and Fox, 2002). These resulting behaviors may either be active, such as being uncivil oneself, or passive, such as withdrawing from the situation. Additionally, by using EMA, this research will be able to examine the dynamic relationship between affect and behavior: does affect lead to behaviors, do behaviors lead to affect, or both?

To date, theoretical and empirical investigations of the emotion-behavior link have ignored potential moderators of this relationship. However, individual differences may moderate the relationship between received incivility and affect, and that between affect and other behaviors. One potential moderator is emotional intelligence (EI). Salovey and Mayer (1990; Mayer & Salovey, 1997) describe four dimensions of EI: one's capacity to appraise and express emotion, the capacity to appraise and recognize emotion in others, regulation of one's own emotions, and the capacity to use emotions for constructive performance.

There have been some investigations of the relationship between emotional intelligence and positive and negative discretionary behaviors (OCBs and CWBs, respectively). Busso (2004) found a positive relationship between EI and OCBs, and Petrides, Frederickson, and Furnham (2004) found a negative relationship between EI and CWBs. However, Day and Carroll (2004) did not find a significant relationship between EI and OCBs. Because the relationship between EI and OCBs/CWBs is unclear based on the previous correlational research, this research attempts to clarify the relationship between EI and incivility, which is a form of CWB. Additionally, the mechanism by which EI may affect behaviors is of interest. For example, does EI moderate the relationship between receipt of incivility and negative affect, does it moderate the relationship between negative affect and subsequent enacted behaviors, or does it exert a direct effect on instigated incivility?

Although individual differences in EI may be a significant predictor of incivility or a moderator in the emotion-behavior process, it is also important to remember that employee emotions and behavior occur in a context. One of the most proximal—and hence important—elements of that context is the immediate supervisor. Supervisors are likely to play (at least) two very important roles that influence behavioral expression on the part of subordinates.

First, upon the occurrence of an event that adversely influences their subordinates, supervisors may be able to initiate strategies to regulate their subordinates' emotions and, hence, behavior. To be successful in regulating their subordinates' emotional reactions and behavior, supervisors must be able to identify others' emotions and be skilled at managing and altering these emotions (i.e., have high EI). Leadership research by George (2000) suggests that EI contributes to effective leadership, and Wong and Law (2002) examined leader-member dyads and found that the leader's EI was positively related to the member's job satisfaction and performance of OCBs. Cote, Lopes, and Salovey (2006) also found that EI was positively related to leadership emergence, especially in emotionally challenging situations or those where subordinates were low in emotional stability. Accordingly, we expected that, to the extent that supervisors are high in EI, they should be better able to identify and manage their subordinates' emotions and resulting behaviors, thereby reducing the occurrence of negative behaviors.

Second, building on research reviewing supervisors' use of reward and punishment strategies to encourage good performance (Podsakoff, 1982), we argue that supervisors structure contingencies between discretionary behavior and outcomes. That is, supervisors create a "climate" by specifying positive consequences for citizenship behavior and negative consequences for counterproductive behavior. The subordinates' perceptions about the expected outcome following a given behavior have the potential to influence their behavior. These contingencies or climates toward subordinate behaviors are expected to influence incivility.

Method

Participants

Participants were 38 volunteers from a manufacturing organization in the Midwestern United States. Recruitment was conducted through the organization's Human Resources department via a letter from the researchers, endorsed by the organization's CEO and union representative, and distributed to all employees. Individuals interested in participating were invited to attend one of several information sessions conducted by the researchers. After the information session, individuals were able to register for participation. Individuals were paid up to \$70 for their participation in the research, with the exact amount contingent upon the number of surveys they completed. Over half (61.5%) of the sample was male, the mean age was 41.6 years ($SD = 10.3$ years), and the mean job tenure was 12.2 years ($SD = 12.0$ years).

Procedure

For two workweeks (10 workdays), participants were prompted to complete a pre-programmed questionnaire four times a workday: at approximately the beginning of their workday (survey 1), at approximately the middle of their morning (survey 2), at approximately the middle of their afternoon (survey 3), and at approximately the end of their workday (survey 4). Participants were also asked to complete an additional survey prior to going to bed (survey 5). The surveys were composed of the following measures of relevance to the present research:

Survey 1: Affect

Survey 2: Affect, Experienced Incivility, Instigated Incivility, Withdrawal/Avoidance

Survey 3: Affect, Experienced Incivility, Instigated Incivility, Withdrawal/Avoidance

Survey 4: Affect, Experienced Incivility, Instigated Incivility, Withdrawal/Avoidance

Survey 5: Affect

Content of EMA Surveys

Items within each of the measures were presented in a different random order on each survey.

Affect. Emotion and mood items were taken from the affect circumplex (Feldman-Barrett & Russell, 1998). Eight items were used to measure four negatively-valenced emotions (i.e., anger, anxiety, frustration, and nervousness; O'Connell, Gerkovich, Cook, Shiffman, Hickcox, & Kakolewski, 1998). Two of these negative emotions were "active" or high arousal (i.e., anger and frustration), and the other two were "passive" or low arousal (i.e., anxiety and nervousness.) Two items were used for each negative emotion, one for intensity and the other for the frequency (i.e., the percentage of time since the last survey that the emotion was experienced). Participants rated each intensity item on a 5-point scale (1 = "not at all" to 5 = "extremely"; $\alpha = .85$), and indicated the percentage of time from 0 to 100 ($\alpha = .89$). The intensity of negative emotions and the frequency of negative emotions are hereafter referred to as "negative emotions" and "% negative emotions," respectively. Additionally, participants were asked to indicate current overall mood using a single item, on a 5-point scale (1 = "very negative" to 5 = "very positive").

Incivility. Experienced and instigated incivility were each measured using eight items. We adapted the Work Incivility Scale (WIS, Cortina, Magley, Williams, & Langhout, 2001; Blau & Andersson, 2005), but, in order to get a fuller measure of incivility, supplemented it with additional items from the Hostility subscale of the Uncivil Workplace Behavior Questionnaire (Martin & Hine, 2005). Participants responded “Yes” or “No,” depending on whether or not they had engaged in or experienced a particular behavior since the last survey (“beep”). A sample item for experienced incivility was: “Since the last beep, did someone at work put you down or act condescendingly toward you?” For instigated incivility, the same item was reworded as: “Since the last beep, did you put others down or act condescendingly toward others at work?” Cronbach’s *alpha* was .87 for experienced incivility and .76 for instigated incivility.

Withdrawal/Avoidance. Interpersonal withdrawal (i.e., withdrawal from other people) was measured with four items. Participants indicated whether or not they had engaged in each behavior since the last survey. Example behaviors included “attempt to avoid people at work” and “try not to interact with others.” Cronbach’s *alpha* was .92.

Additional Measures of Traits or Non-Momentary Variables

Climate for incivility. Participants completed a measure of the extent to which each of the uncivil behaviors measured on a momentary basis (discussed above) was believed to be encouraged or discouraged by the participant’s supervisor. Responses were on a 5-point scale (1 = “very likely to be discouraged” to 5 = “very likely to be encouraged”). Cronbach’s *alpha* was .90.

Emotional intelligence. Participants assessed their own and their supervisor’s emotional intelligence. The emotional intelligence scale (Wong & Law, 2002) consists of four subscales (self-emotion appraisal, others’-emotion appraisal, use of emotion, and regulation of emotion) with four items each. Responses were on a 7-point scale (1 = “totally disagree” to 7 = “totally agree”). Sample items included “I am quite capable of controlling my own emotions” and “My supervisor has a good understanding of the emotions of people around him/her.” Cronbach’s *alphas* for the four factors were .81, .84, .84, and .82 for employees’ ratings of themselves, and .94, .93, .84, and .96 for their ratings of their supervisors.

Personality. A Big-5 (i.e., neuroticism, extroversion, openness to experience, agreeableness, and conscientiousness) measure of personality from the International Personality Item Pool (IPIP; Goldberg, 1999) was used. Responses were on a 5-point scale (1 = “very inaccurate” to 5 = “very accurate”). Cronbach’s *alphas* for the five factors were .80, .89, .93, .83, and .90, respectively.

Leader-member exchange. Participants completed the seven-item scale of relationship quality developed by Graen and colleagues (LMX-7; Graen, Novak, & Sommerkamp, 1982) and adapted by Graen and Uhl-Bien (1995). Responses were on a 5-point scale (1 = “strongly disagree” to 5 = “strongly agree”). A sample item was “I would characterize my working relationship with my supervisor as extremely effective.” Cronbach’s *alpha* was .88.

Data were analyzed using hierarchical linear modeling (HLM), which accounts for the non-independence of repeated measures within persons (Raudenbush & Bryk, 2002). Level 1 variables included the survey/time point (within-person) data, and Level 2 variables were the trait/non-momentary (between-persons) data from the beginning or end of project measures. Additionally, three-level HLM models were used to test the influence of day-level variables (i.e., sleep, evening stressors, and evening activities). In such models, the survey/time point constructs were level 1, the day-level constructs were level 2, and the trait/non-momentary constructs were level 3. However, to increase the accessibility of results, in the following section we mostly summarize the results in terms of descriptive statistics and within-person correlations rather than the HLM analyses (which are instead provided in the Appendix).

In order to examine sequential relationships (e.g., that behaviors at one time would predict affect at the following time), lagged variables were created for affect and behaviors.

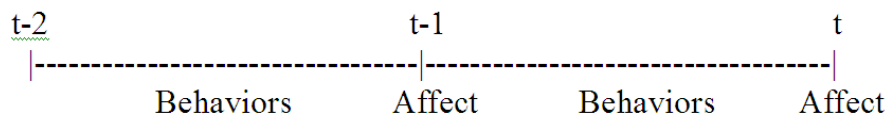


Figure 4. Pictorial depiction of data collection timeline.

Behaviors were assessed *over a time period*; that is, since the last survey. For example, using the above timeline diagram, incivility behaviors measured at $t-1$ would include all uncivil behaviors between $t-2$ and $t-1$. Similarly, withdrawal behaviors measured at time t would include all withdrawal behaviors between $t-1$ and t . Affect was assessed at *one specific time* (respondents were asked how they felt “right now”). Again, using the above timeline diagram, affect at $t-1$ would pertain to how the participant felt at precisely that moment.

Results

How Prevalent Are Incivility and Withdrawal in the Workplace?

The figures below indicate the number of times incivility or withdrawal behaviors were endorsed by participants, as well as the average percent of surveys on which people reported experiencing negative emotions over the 10-day project. Behaviors were surveyed 3 times a day for 10 days from 38 people, for a maximum possible number of occurrences of 1,140. For example, participants reported being spoken to in an inappropriate tone 43 out of a possible 1,140 times—that is, on approximately 4% of surveys. This translates to approximately 11% of workdays, or slightly more than once every two workweeks.

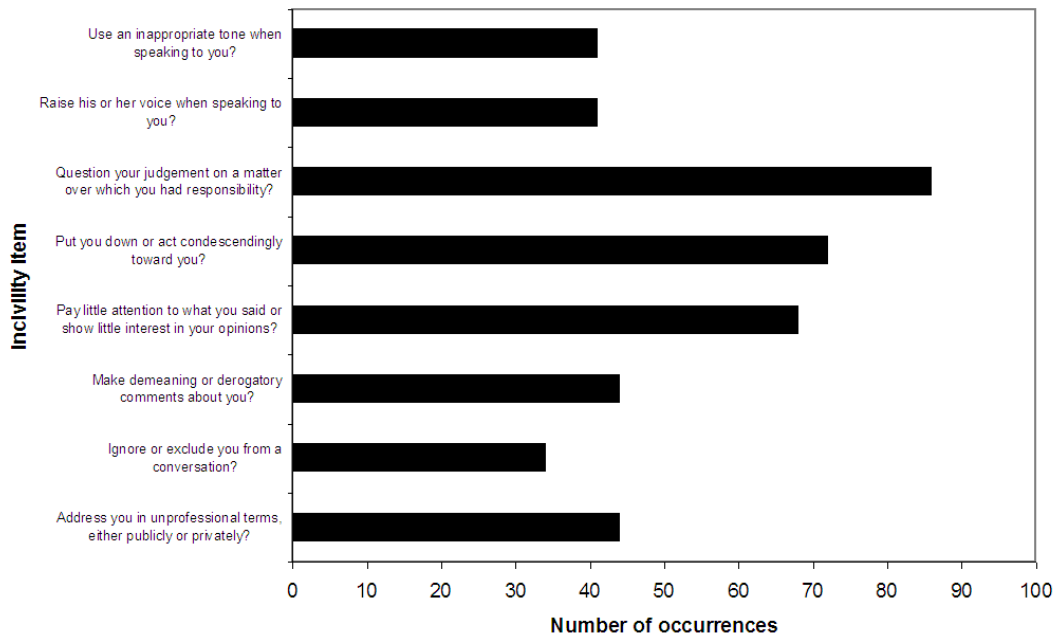


Figure 5. Frequency of occurrence of each *experienced* incivility item over the course of the project.

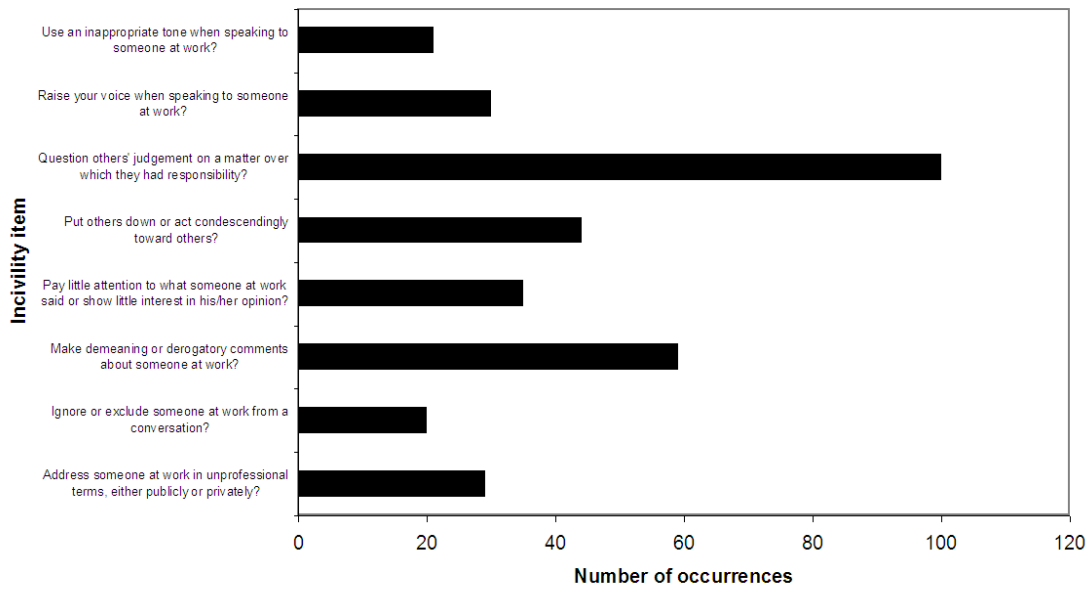


Figure 6. Frequency of occurrence of each *instigated* incivility item over the course of the project.

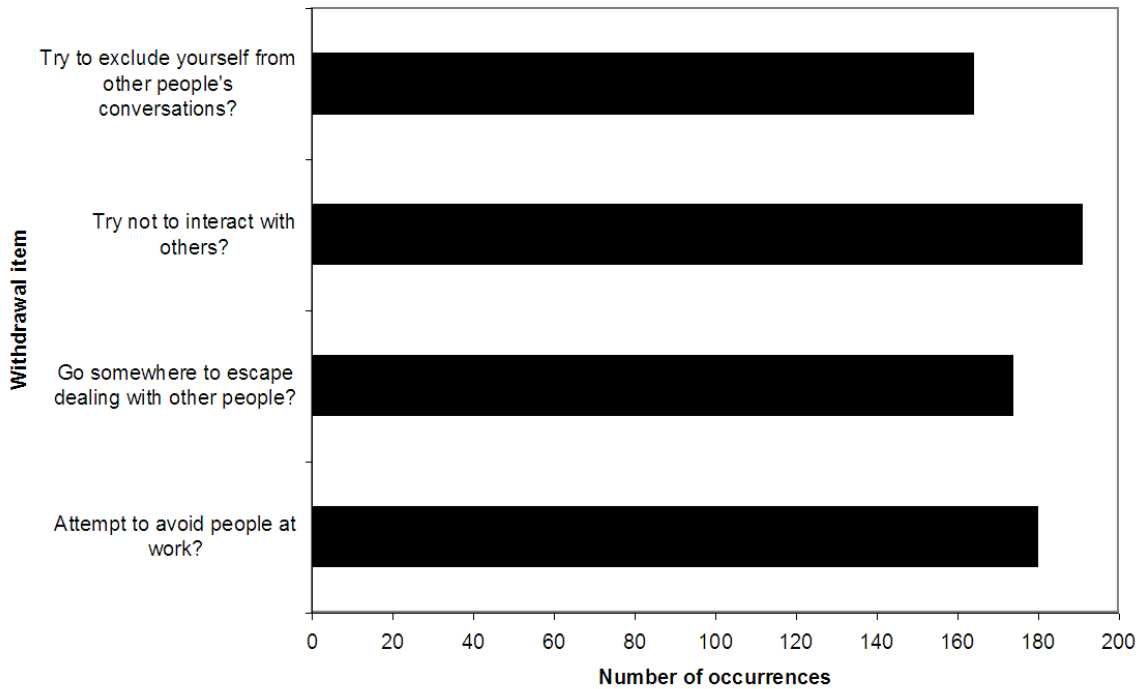


Figure 7. Frequency of occurrence of each withdrawal item over the course of the project.

As seen above, withdrawal behaviors were more frequent than either type of incivility. Additionally, experienced incivility was generally (but, interestingly, not always) reported as being more frequent than instigated incivility.

How Prevalent Are Negative Emotions in the Workplace?

The number of instances of negative emotions in the workplace over the course of the project is shown in Figure 8.

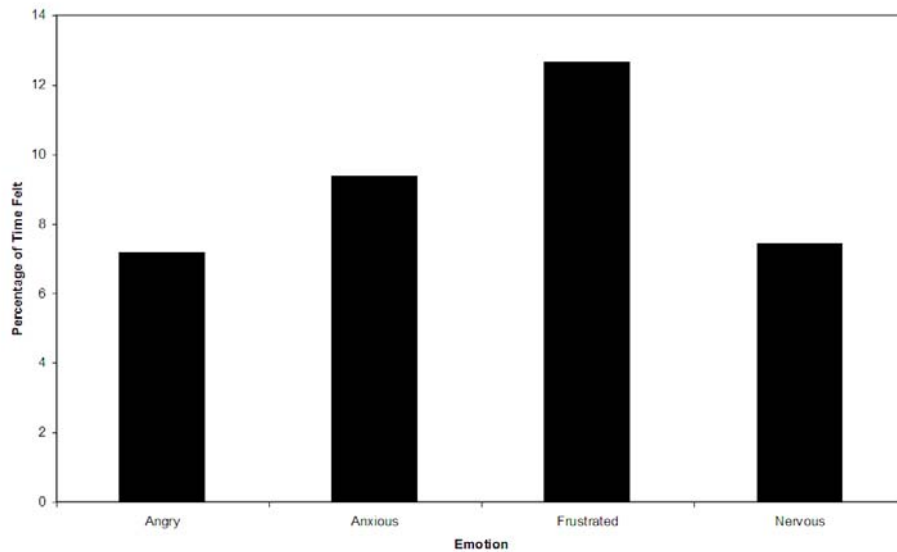


Figure 8. Frequency of occurrence of negative emotions over the course of the project.

Participants generally reported experiencing negative emotions on a small percentage of surveys (7-13%). Although we examined potential differences between active (i.e., anger, frustration) versus passive (i.e., nervousness, anxiety) negative emotions in terms of emotion-behavior relationships, we found that active and passive negative emotions exhibited very similar relationships with behaviors such as incivility and withdrawal. Hence, subsequent results refer to all the negative emotions studied instead of the separate categories of active and passive negative emotions. It should be noted that the fact that similar emotion-incivility relationships were found for active and passive negative emotions supports Berkowitz's (1993) contention that *any* negative affective state (as opposed to only states such as anger) can instigate aggression.

Is a Substantial Proportion of the Variance in Incivility and Withdrawal Behaviors Within, as Opposed to Between, People?

Results indicated that substantial proportions of variance in instigated incivility (81%), experienced incivility (76%), and withdrawal (58%) were experienced within persons over time, rather than between people, indicating that work behavior was indeed highly volatile within persons over time. Figure 9 depicts the percentage of within-person variance for instigated incivility, experienced incivility, withdrawal, mood, and intensity and frequency of negative emotions. Over the course of the two weeks, there was substantial within-person variability in the ratings of each of the variables.

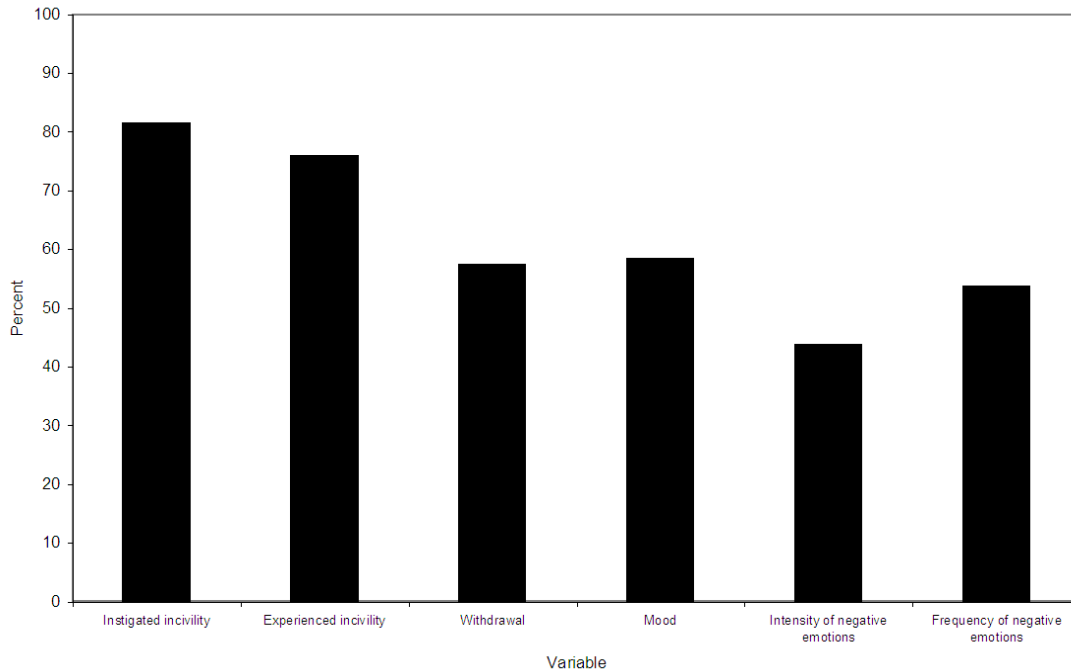


Figure 9. Percentages of within-person variance in constructs (Project 3).

What Are the Relationships Between Experienced Incivility, Instigated Incivility, and Withdrawal?

In order to understand the process of incivility, we examined the antecedents of negative behaviors (instigated incivility and withdrawal) using lagged and concurrent relationships. The data indicated that experiencing incivility was associated with both instigating incivility and withdrawal in the same time frame. Additionally, instigating incivility during the previous time frame ($t-1$) predicted instigating incivility during the current time frame (t); similarly, withdrawal behaviors during the previous time frame ($t-1$) predicted withdrawal behaviors during the current time frame (t). However, experiencing incivility during the previous time frame ($t-1$) did not predict either instigation or withdrawal during the current time frame (t).

Table 16

Concurrent Relationships Between Incivility and Withdrawal

	Experienced Incivility	Instigated Incivility	Withdrawal
Experienced Incivility	1.00		
Instigated Incivility	0.39	1.00	
Withdrawal	0.29	0.24	1.00

Table 17

Lagged Relationships (Switching) Between Incivility and Withdrawal

		Time <i>t</i>		
		Experienced Incivility	Instigated Incivility	Withdrawal
Time <i>t-1</i>	Experienced Incivility	0.22	0.10	0.14
	Instigated Incivility	0.07	0.17	0.14
	Withdrawal	0.18	0.20	0.50

What Are the Relationships Between Affect and Behaviors? Do Moods and Emotions Lead to Behaviors (Instigated Incivility and Withdrawal), or Vice Versa?

The results indicated that performing negative behaviors (both incivility and withdrawal) during a time frame resulted in subsequent changes in mood/emotions at the end of that time frame, but that mood/emotions at one time point did not consistently predict subsequent behaviors during the next time frame. Experiencing incivility within one time frame predicted negative emotions and mood at the end of that time frame. Instigating incivility during a time frame predicted negative emotions at the end of the time period, and withdrawal behaviors during the time frame predicted overall mood and negative emotions at the end of the time frame, as well as the percentage of negative emotions experienced in the following time frame. However, negative emotions at time point *t-1* did not predict either instigating incivility or withdrawal during time frame *t*. In other words, behaviors were associated with subsequent changes in mood, and not vice versa. Table 18 displays relationships between behavior measured at time *t-1* and mood measured at time *t*.

A related question addresses whether performing incivility and withdrawal behaviors leads to increases or decreases in mood/emotions. The data indicated a positive relationship between behaviors and mood, such that performing negative behaviors led to a more negative mood and more negative emotions.

Table 18

Lagged Relationships Between Behaviors and Affect

		Time <i>t</i>		
		Overall Mood	Negative Emotions	% Negative Emotions
Time <i>t-1</i>	Experienced Incivility	-0.10	0.13	0.10
	Instigated Incivility	-0.13	0.18	0.22
	Withdrawal	-0.21	0.28	0.31

Is Personality Related to Affect and Behaviors?

With regard to the person-level variables, there was little support for moderation of momentary data. Only the personality variable of conscientiousness moderated the relationships between experiencing and instigating incivility, and experiencing incivility and withdrawal, such

that people high in conscientiousness reported fewer negative behaviors after experiencing incivility.

Additionally, we found support for the importance of participant Emotional Intelligence. Specifically, there was a direct negative relationship between participant EI and instigation of incivility. However, EI did not moderate relationships between emotions and behaviors.

Does the Supervisor Play a Role in Incivility and Withdrawal?

Regarding the role of the supervisor, reports of supervisor EI had a direct negative effect on both instigating incivility and withdrawal, such that higher supervisor EI decreased participant instigation and withdrawal. However, supervisor EI did not moderate relationships between emotions and behaviors.

The supervisor-initiated climate for incivility was not significantly related to the experience or performance of negative behaviors, nor did it moderate relationships between behaviors and emotions. Nonetheless, the participants' relationships with their supervisors were important: the quality of the relationship was negatively related to experienced incivility.

Figure 10 summarizes the results in a heuristic fashion.

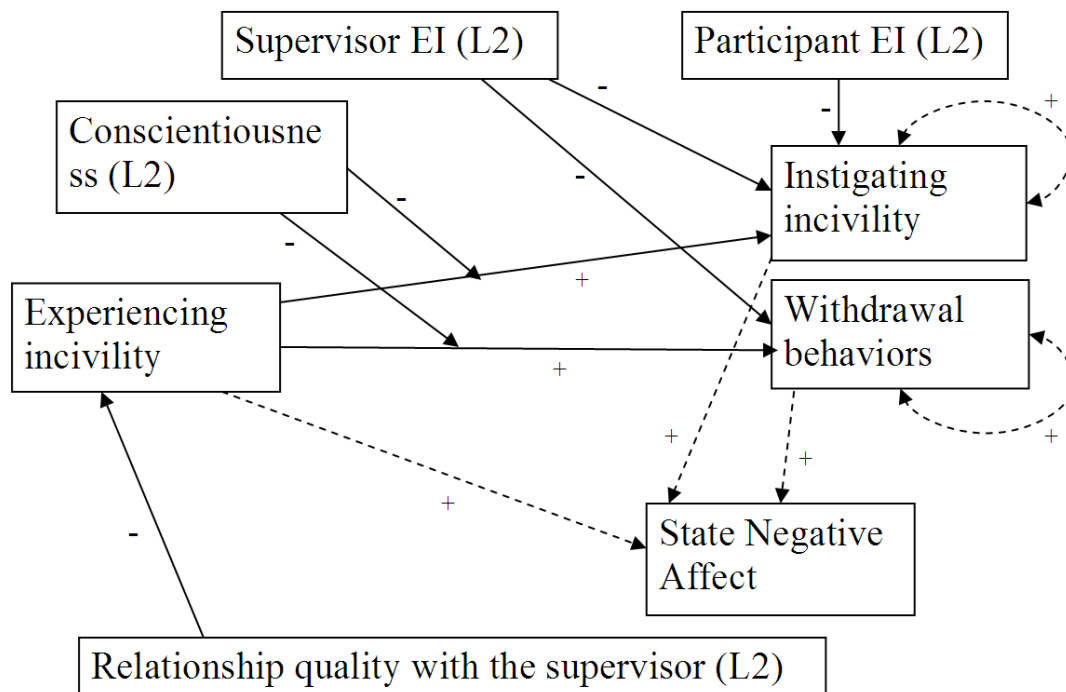


Figure 10. Findings of interest (Project 3).

Note. L2 = Level 2; between-person level of analysis. All other constructs operate at L1 (Level 1), the within-person level of analysis. Regular arrows represent concurrent relationships; dotted arrows represent lagged relationships.

Discussion

Our results indicated that uncivil behaviors may have far-reaching consequences. Targets of uncivil behavior were likely to initiate similar behavior toward others. If Person X acts uncivilly toward Person Y, Person Y is likely to behave uncivilly in return. If Person Y's incivility is directed back at Person X, a spiral of negative behavior of increasing severity may result between X and Y (Andersson & Pearson, 1999). On the other hand, if Person Y responds to the experienced incivility by instead "kicking the dog"—that is, acting uncivilly toward a third person, Person Z—then this is likely to increase the likelihood of Person Z behaving in an uncivil manner toward Person Y or someone else. Apart from engaging in incivility themselves, targets of uncivil behavior also were more likely to engage in other negative behaviors, such as interpersonal withdrawal and were more likely to experience negative emotions.

Popular wisdom opines that behaving aggressively improves one's mood. For example, Bushman, Baumeister, and Phillips (2001) list several expressions—such as "let it out," "clear the air," and "blow off steam"—that are often used as advice by laypersons and the media. In fact, the idea of aggression improving mood may be thought of as a new form of Freud's discredited catharsis hypothesis. Our results, however, show just the opposite: engaging in incivility (or even withdrawal, which may be construed as "passive-aggressive" behavior) is associated with *worse* emotional states. These findings, along with the laboratory experiments of Bushman et al., disconfirm the new form of the catharsis hypothesis. In other words, incivility has a negative impact not only on other people but also on the person performing the incivility.

Given the negative impact of employee incivility, organizations would naturally be interested in minimizing such behavior. It should be noted that the high within-person variability in incivility suggests that an approach designed to screen out likely "high incivility" employees at the selection stage is likely to prove insufficient. Thus, situational factors are important. The present research focuses on the supervisor as the organizational agent most proximal to the employee. So, what can supervisors seeking to decrease uncivil behavior among their employees do?

Interestingly, the results suggest that supervisors would be ill-advised to rely solely on climates that discourage incivility, because such climates were in fact found not to be related to the actual incidence of incivility. On the other hand, the quality of the relationship between the supervisor and subordinate was important: better relationships were associated with the employee experiencing less incivility. Finally, emotional intelligence (EI)—particularly that of the supervisor—was a significant negative predictor of instigated incivility and withdrawal behavior. Although there is much debate about whether EI is a non-malleable trait or a learned (and hence malleable) skill, an awareness of one's own and others' emotions seems to have a positive effect. In the present research, employees reported on their supervisors' EI; future research should attempt to replicate the present results by asking supervisors themselves to report on their EI, and hence avoiding the possibility of the results being influenced by same-source bias.

Project 4: The Impact of Unjust Treatment and Emotion Regulation Strategies

Statement of Research Problem

Interpersonal Injustice and its Outcomes

Since the introduction of Affective Events Theory (AET; Weiss & Cropanzano, 1996), the study of emotional experiences in the workplace and the outcomes associated with these experiences have grown rapidly. In the past decade, scholars have examined the role that emotions play in job satisfaction (Weiss, 2002), daily cycles in workplace affect (Weiss, Nicholas, & Daus, 1999), the causes and consequences of general moods (Alliger & Williams, 1993), and discrete emotions (Fitness, 2000), as well as numerous work-related behaviors. This research draws on one of the central tenets of AET: work events result in specific affective states that in turn can result in specific work behaviors.

Numerous types of events might elicit emotional states in employees. Social interactions can be powerful determinants of emotional experiences (Levenson, 1999). Because many occupations have a high requirement for social interaction, the social interactions employees have at work—whether with co-workers, supervisors, or customers—may represent some of the most common affective events with which employees must deal.

One potential type of interpersonal affective event that employees are likely to encounter in the workplace consists of instances of being treated unfairly by others. Unfair interpersonal treatment has been shown to influence both employees' affective reactions (Barclay, Skarlicki, & Pugh, 2005; Rupp & Spencer, 2006) and their work behaviors (Skarlicki & Latham, 1996; Skarlicki & Folger, 1997). In this paper, we apply Affective Events Theory to examine how unfair interpersonal treatment influences both employees' affective experiences and their work behaviors within an emotional regulation context.

In particular, it has long been suggested that unfair interpersonal treatment at work and the outcomes associated with it represent a *dynamic* emotional process (Homans, 1961). However, very little research has examined the role that discrete emotions play in the relationship between unfair treatment and its associated behavioral responses as they actually happen in “real time” at work. Thus, the present research uses ecological momentary assessment (EMA) to investigate the within-person (as opposed to between-person) relationships between interpersonal (in)justice, affect, and behavior. Based on our own previous research (e.g., the other projects in this report), we have little doubt that affect and behavior will exhibit considerable within-person variability. However, to our knowledge this is the first investigation of the volatility of interpersonal (in)justice.

The Target Similarity Effect

Research on “multifoci justice” has paid special attention to unfair interpersonal treatment (Cropanzano, Byrne, Bobocel, & Rupp, 2001; Rupp & Cropanzano, 2002). This approach suggests that it is necessary to consider the source or perpetrator of unfair treatment. To date, this research has considered one's supervisor, the organization, one's co-workers, and the

customers as potential sources of unfair treatment (Cropanzano, Prehar, & Chen, 2002; Liao & Rupp, 2005; Masterson, Lewis, & Goldman, 2000; Rupp & Spencer, 2006). Moreover, a few investigations have found that fairness judgments made about a source significantly impact behaviors directed at that source (Masterson et al., 2000; Rupp & Cropanzano, 2002; Rupp & Spencer, 2006).

Building on this previous research, Lavelle, Rupp, & Brockner (in press) have developed the “target similarity effect” model. This model hypothesizes that strong relationships between justice and targeted behaviors are more likely when the target of the judgments and behavior is the same. The model draws upon the longstanding theory and research on attitude-behavior relationships (e.g., Ajzen & Fishbein, 1977). This research suggests that the basis of determining an attitude’s specificity is its target (Ajzen & Fishbein, 1977): behaviors directed towards a particular target are more specific than are those directed towards multiple targets or towards unspecified targets. Thus, when the behavior refers to a specific target, and when the attitude and behavior have the same target, the attitude is more relevant to the behavior and hence is more likely to be predictive of the behavior. So, the target similarity framework argues that prediction of behaviors with (in)justice perceptions will be more pronounced when the foci of the variables are specified and matched (Lavelle et al., in press).

Although this multifoci approach stresses the importance of considering multiple sources of unfair treatment and the outcomes associated with this treatment, the majority of research to date has not examined multiple sources of unfair treatment simultaneously. The current research examines the affect-related behavioral outcomes of three sources of unfair treatment at work from a daily perspective. Specifically, we consider how unfair interpersonal treatment from supervisors, co-workers, and customers relates to the experience of negative emotions.

In addition, we consider two types of behavioral reactions. Previous research (e.g., Colquitt, Conlon, Wesson, Porter, & Ng, 2001; Dalal, 2005) has demonstrated that unjust treatment is associated with not only higher counterproductive work behavior (CWB) but also lower organizational citizenship behavior (OCB) on the part of the employee. Again, however, the extant research has utilized between-persons designs. Because we have previously argued that OCB and CWB are *dynamic* behavioral constructs, we use a within-persons design.

In accordance with Affective Events Theory, we also expect that the relationship between workplace events and work behavior will be moderated by work affect (mood and emotions). Thus, we expect that the relationship between unjust treatment on the one hand and OCB and CWB on the other hand will at least partially be mediated by negative emotions. Specifically, unjust treatment is predicted to lead to negative emotions, which in turn are predicted to lead to lower levels of OCB and higher levels of CWB. This is particularly likely to be the case for CWB, because, as we have seen in Project 1 (and as predicted by Spector & Fox, 2002), negative emotions are more strongly related to CWB than they are to OCB.

To summarize, we expect that:

- (1) Unjust treatment is highly variable over time within persons;
- (2) Unjust treatment is associated with more negative emotions;

- (3) Unjust treatment is associated with less OCB and more CWB;
- (4) Unjust treatment's relationship with OCB and, especially, CWB is mediated by negative emotions; and
- (5) The relationship between unjust treatment and behavior (OCB and CWB) is greater when the target of the behavior and the source of the unjust treatment are the same than when they are different.

Unjust Interactions and Emotion Regulation

Employees in certain jobs are required by organizational “display rules” to outwardly exhibit “appropriate” emotions, regardless of the true emotions they are feeling (Hochschild, 1983). Thus, employees must often engage in “emotion regulation,” defined as “the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions” (Gross, 1998, p. 275). Emotion regulation includes faking “appropriate” emotions that are not genuinely felt as well as suppressing “inappropriate” emotions that are genuinely felt. Both these strategies are forms of “surface acting”—that is, attempts to modify overt *emotional displays* to be consistent with organizational display rules (Glomb & Tews, 2004). Another form of emotion regulation is “deep acting,” which involves attempts to modify *internal emotions* to be consistent with organizational display rules (Glomb & Tews, 2004). Yet another form involves the “reappraisal” or re-evaluation of emotion-generating events in a more positive light (Gross, 1998).

Originally, emotion regulation (or a closely related idea, “emotional labor”) was thought to be an issue only with frontline service positions requiring high levels of interaction with customers or clients. More recently, however, researchers have realized its relevance to any job that involves large amounts of social interaction with other persons (not only customers) and that requires employees to conform to organizational rules concerning appropriate displays of emotion. The military is a good example of an organization that not only involves interaction with many others (of the same or different ranks) but also has strong emotional display rules (e.g., the “maintaining personal discipline” aspect of military performance identified by “Project A”; Campbell, 1990a).

As discussed previously, unjust treatment is likely to lead to negative emotions. However, organizational display rules do not allow the expression of such emotions. Thus, on occasions when they have been treated unjustly, employees must engage in emotion regulation because the emotions they attempt to display (i.e., positive emotions) are not the same as those they actually feel (i.e., negative emotions). Although no published field research has specifically examined the link between unjust treatment and emotion regulation at work, preliminary support for these relationships has been found in a laboratory simulation of a work environment. Rupp and Spencer (2006) found that the experience of injustice from customers in a simulated call center resulted in anger, which in turn increased participants’ levels of emotional labor or emotional regulation.

Thus, to summarize, we expect that:

- (1) Unjust treatment is related to emotion regulation; and

- (2) The relationship between unjust treatment and emotion regulation is mediated by negative emotions.

Emotion Regulation Strategies as Moderators of Emotion-Behavior Relationships

In a previous section of this report, we discussed the literature suggesting that emotion regulation strategies might moderate the relationships between negative emotions and various work behaviors. Consider, for example, reappraisal, which is considered to be one of the more optimal strategies. Is it the case that the impact of negative emotions on OCB and CWB is attenuated when employees attempt to re-appraise the negative-emotion-causing event in a more positive light?

General Negative Affect Versus Particular Negative Emotions

As also mentioned in a previous section, it is unclear whether aggressive responding is instigated solely by anger and hostility, or whether *any* negative affective state can instigate aggression. This question obviously cannot be answered when using overall negative affect. Thus, a secondary focus of the present research is to address this issue by assessing multiple discrete negative emotions. Two of these emotions—anger and frustration—would be expected to influence CWB. However, it is unclear whether the remaining two—guilt and unhappiness—do so as well.

Method

Overview

We examined the above hypotheses using ecological momentary assessment techniques with a sample of restaurant servers from six restaurants in Canada and the United States. Job requirements of restaurant servers are high in interpersonal demands, and the restaurant server job provides an excellent example of strong emotional display rules (Diefendorff & Richard, 2003)—thereby requiring emotional labor or emotion regulation generally similar to, if not greater than, that in other occupations of similar wage levels and display-rule requirements (e.g., customer-service employees and airline flight attendants; Glomb, Kammeyer-Mueller, & Rotundo, 2004).

Participants

Fifty-six restaurant servers participated. The average age and tenure of the servers were 31 and 2.25 years, respectively.

Procedure

Participants were each given a Personal Digital Assistant (PDA) on which to complete surveys over a 3-workweek period. Participants were instructed to complete a survey prior to beginning each shift during the research period. On these surveys, participants indicated their negative emotional states thus far that day. Participants also completed surveys about one-third and two-thirds of the way through each shift, and at the end of each shift. On these surveys,

participants indicated their negative emotional states, emotion regulation, work behaviors (OCB and CWB), and instances of unjust treatment (if any) since the previous survey.

Measures

Experiences of unfair treatment. Participants were asked to indicate whether, since the previous survey, they had been treated unfairly by their supervisor, a co-worker, a customer, some other person, or “none of the above.” Each item was scored dichotomously (e.g., unfair treatment by the supervisor versus no unfair treatment by the supervisor).

Negative emotional states. Participants indicated the extent to which they experienced frustration, anger, guilt, and unhappiness since the previous survey, on a 5-point scale (1 = Not at all, 5 = Very much). It was necessary to phrase the questions slightly differently, depending on whether the survey in question occurred at the beginning of a shift versus during or after a shift. For example, the “anger” question was phrased as “To what extent have you experienced anger so far today?” at the beginning of a shift and “To what extent have you experienced anger since the last time you filled out the PalmPilot™?” during or after a shift. Cronbach’s *alpha* was .83.

OCB and CWB. The handheld computers (PalmPilots™) displayed a list of 12 OCBs and 12 CWBs, and prompted participants to select all the listed behaviors they had engaged in since the last time they responded to a survey. Each behavior was scored dichotomously (i.e., “yes” versus “no”). Examples from the OCB list included: “Went out of your way to help your supervisor with his/her duties,” “Went out of your way to be nice to a co-worker,” and “Went out of your way to help a customer.” Cronbach’s *alpha* was .80. Examples from the CWB list included; “Spoke poorly about your supervisor to others,” “Tried to make a co-worker’s work more difficult,” and “Deliberately provided poor service to a customer.” Cronbach’s *alpha* was .59. OCB and CWB were only measured during and after each shift.

Emotion regulation. Four emotion regulation strategies were assessed, each via a single item. Respondents were asked to think of the times they had to control their emotions since the previous survey, and were asked to what extent they had used each of the strategies. The four strategies were:

- (1) Surface Acting—Faking Emotions: “Express emotions that were different from what you were feeling”;
- (2) Surface Acting—Suppressing Emotions: “Hide your true emotions”;
- (3) Reappraisal: “Re-think or re-evaluate how you felt to feel more positive”; and
- (4) Deep Acting: “Try to actually experience/feel emotions you must show as part of your job.”

All items were rated on a 5-point Likert scales (1 = not at all, 5 = very much).

Results

To increase the accessibility of results, we mostly summarize the results in terms of descriptive statistics and within-person correlations rather than the HLM analyses (which are presented in the Appendix).

Is a Substantial Proportion of the Variance in Unjust Treatment Within, as Opposed to Between, People?

Yes, unjust treatment was highly volatile within persons over time. For overall unjust treatment, 95.7% of the variance was within persons, with only 4.3% of the variance being between persons. This justifies a within-person, momentary approach to studying unjust treatment. As might be expected, all other variables also exhibited significant within-person variance.

Note: The remaining analyses involve data aggregated to the level of the workday, because we also had collected data from the restaurant employees' supervisors and customers, and because the data from different sources could only be compared by aggregating employee data to the level of the workday. Data from supervisors and customers have not yet been fully analyzed (and hence will not be described below), but initial results indicate a picture largely similar to that obtained from the employee data.

Is Unjust Treatment Associated With More Negative Emotions?

Table 19 displays correlations between unjust treatment and negative emotions. Unjust treatment from the supervisor, co-workers, customers, and other sources was measured. In addition, a measure of overall unjust treatment was created by averaging unjust treatment across all the sources. Four negative emotions were measured: anger, frustration, guilt, and unhappiness. A measure of overall negative emotions also was created, as an average of the four specific negative emotion scores.

Results from the table indicate that unjust treatment was indeed associated with negative emotions. As might be expected, the exceptions to this pattern are the weak relationships between unjust treatment (overall and from the supervisor, customers, and "other" sources) and the negative emotion of *guilt*; there is little reason to expect that people feel guilty when they experience unjust treatment.

Table 19
Relationships Between Unjust Treatment and Negative Emotions

Source of Unjust Treatment	Negative Emotions				
	Overall	Anger	Frustration	Guilt	Unhappiness
Overall	0.41	0.45	0.32	0.10	0.34
Supervisor	0.30	0.37	0.22	0.08	0.28
Co-workers	0.22	0.18	0.16	0.18	0.17
Customers	0.19	0.26	0.13	0.04	0.15
“Other”	0.18	0.14	0.18	0.00	0.16

Is Unjust Treatment Associated With Less OCB? Is the Negative Relationship Between Unjust Treatment and OCB Stronger When the Target of the OCB Is the Same as the Source of the Unjust Treatment Than When They Are Different?

Table 20 displays correlations between unjust treatment and OCB. As before, unjust treatment from various sources was measured, and so was overall unjust treatment. OCB *toward* several sources—supervisor, co-workers, and customers—was measured. Results generally indicate non-trivial negative relationships only between supervisor-focused OCB on the one hand and overall, supervisor-driven, and co-worker-driven unjust treatment on the other.

In general, therefore, it cannot be said that unjust treatment is associated with less OCB. Moreover, in general there was little support for the contention that correlations between unjust treatment and OCB are more strongly negative when the target of the OCB is the same as the source of the unjust treatment than when they are different.

Table 20
Relationships Between Unjust Treatment and OCB

Source of Unjust Treatment	OCB toward...		
	Supervisor	Co-workers	Customers
Overall	-0.16	0.02	0.08
Supervisor	-0.12	0.05	0.08
Co-workers	-0.16	0.07	0.10
Customers	0.03	-0.04	-0.06
“Other”	-0.06	-0.01	0.10

Is Unjust Treatment Associated With More CWB? Is the Positive Relationship Between Unjust Treatment and CWB Stronger When the Target of the CWB Is the Same as the Source of the Unjust Treatment Than When They Are Different?

Table 21 displays correlations between unjust treatment and CWB. As before, unjust treatment from various sources was measured, and so was overall unjust treatment. CWB *toward* several sources—supervisor, co-workers, and customers—was measured.

Results indicate non-trivial positive relationships between overall unjust treatment and CWB targeted at the supervisor and co-workers, between unjust treatment by the supervisor and CWB targeted at the supervisor and co-workers, and between unjust treatment by co-workers and CWB targeted at co-workers. Moreover, in general there was little support for the contention that correlations between unjust treatment and CWB are more strongly negative when the target of the CWB is the same as the source of the unjust treatment than when they are different.

Table 21
Relationships Between Unjust Treatment and CWB

Source of Unjust Treatment	CWB toward...		
	Supervisor	Co-workers	Customers
Overall	0.25	0.22	0.03
Supervisor	0.39	0.33	0.12
Co-workers	0.10	0.17	-0.01
Customers	0.02	0.06	0.04
“Other”	0.08	-0.06	-0.02

Is Unjust Treatment Associated With More Emotion Regulation?

Table 22 displays correlations between unjust treatment and emotion regulation strategies. As before, unjust treatment from various sources was measured, as was overall unjust treatment. Four emotion regulation strategies were assessed: faking and suppressing emotions (both of which are forms of surface acting), reappraisal, and deep acting. In general, the results indicate that unjust treatment is associated with greater incidences of faking emotions, suppressing emotions, and reappraisal. Relationships between unjust treatment and deep acting were generally much weaker.

Table 22
Relationships Between Unjust Treatment and Emotion Regulation Strategies

Source of Unjust Treatment	Emotion Regulation Strategy			
	Surface Acting— Faking Emotions	Surface Acting— Suppressing Emotions	Reappraisal	Deep Acting
Overall	0.26	0.27	0.29	0.05
Supervisor	0.20	0.21	0.15	0.03
Co-workers	0.08	0.07	0.17	-0.02
Customers	0.14	0.13	0.12	0.08
“Other”	0.11	0.17	0.15	0.05

Do All Negative Emotions, or Just Anger and Frustration, Instigate CWB?

First of all, results indicated that negative emotions were largely unrelated to CWB toward customers. These results reinforce previous findings that, by and large, unjust treatment was unrelated to CWB toward customers. Moreover, the relationships between unjust treatment

and OCB were not strong; if anything, unjust treatment was associated with slight *increases* in OCB toward customers. In other words, customer service appears to be largely immune from negative events and emotions.

Second, CWB related to the supervisor and, to a lesser extent, co-workers, was predicted not only by overall negative affect but also by the discrete negative emotions of anger, frustration, and unhappiness. Guilt, however, did not predict CWB. Thus, with regard to the issue of whether *any* negative affective state—not just anger-related states—instigate aggression (Berkowitz, 1993), the data are equivocal: among the non-anger-related states, unhappiness is related to CWB, whereas guilt is not.

Table 23
Relationships Between Negative Emotions and CWB

Negative Emotions	CWB toward...		
	Supervisor	Co-workers	Customers
Overall	0.26	0.13	0.03
Anger	0.30	0.15	-0.03
Frustration	0.19	0.11	0.01
Guilt	0.06	0.05	0.06
Unhappiness	0.26	0.14	0.07

Do Negative Emotions Mediate the Relationship Between Unjust Treatment on the One Hand and (a) OCB, (b) CWB, and (c) Emotion Regulation Strategies on the Other?

The previously-reported results indicate that overall unjust treatment is not consistently associated with OCB, CWB, and the various emotion regulation strategies. We therefore assess mediation in only those cases where relationships were strong and in the expected direction—that is, overall unjust treatment’s relationships with: (1) supervisor-targeted OCB, (2) supervisor- and co-worker-targeted CWB, and (3) faking, suppressing and reappraising emotions. [Although it is conceivable for mediation to occur in cases where the independent variable (here: unjust treatment) and the dependent variable (here: OCB, CWB, or emotion regulation) are not significantly related (Kenny, Kashy, & Bolger, 1998), most research studying mediation has focused on examining cases where the relationship between independent and dependent variables is non-trivial.]

Results indicated that overall negative emotions completely mediated the relationship between overall unjust treatment and supervisor-directed OCB. In other words, greater overall unjust treatment led to greater overall negative emotions, which in turn led to less supervisor-directed OCB.

Overall negative emotions also completely mediated the relationship between overall unjust treatment and supervisor-directed CWB. In other words, greater overall unjust treatment led to greater overall negative emotions, which in turn led to more supervisor-directed CWB. However, overall negative emotions did not mediate the relationship between overall unjust

treatment and co-worker-directed CWB. In other words, co-worker-directed CWB was influenced directly by overall unjust treatment (i.e., not through overall negative emotions).

Finally, overall negative emotions mediated the relationship between overall unjust treatment and faking, suppressing, and reappraising emotions. In other words, greater overall unjust treatment led to greater overall negative emotions, which in turn led to more faking, suppression, and reappraisal of emotions. Mediation was complete in the case of faking and suppression of emotions, and partial in the case of reappraisal of emotions.

There are two caveats to these results. The first is that all the elements of the mediation model (i.e., independent variable, mediator, and dependent variable) were measured at the same time point; hence, temporal precedence (and therefore causal direction) remains an issue. The second is that the Sobel test for mediation does not hold precisely in the case of multilevel models, and should therefore be considered as an approximation. [We still used this test to arrive at our conclusions because other methods of assessing mediation in a multilevel context are not well developed (Kenny et al., 2003)].

Are Emotion Regulation Strategies Related to OCB and CWB?

The literature on emotion regulation (and emotional labor) suggests that reappraisal and deep acting are the most beneficial strategies to the individual. However, to our knowledge, no research has examined the emotion-regulation strategies' within-person relationships with OCB and CWB. The results indicated that faking emotions, reappraisal and, to a lesser extent, suppressing emotions were related negatively to OCB. Moreover, faking emotions was related positively to CWB. Deep Acting was unrelated to both OCB and CWB.

Thus, at least from the perspective of engaging in desired behavior and not engaging in undesired behavior, faking emotions appears to be the *least* optimal emotion regulation strategy. No strategy was related positively to OCB and negatively to CWB.

Do Emotion Regulation Strategies Moderate Emotion-Behavior Relationships?

In addition to their aforementioned direct effects on OCB and CWB, it has been proposed that emotion regulation strategies can attenuate or exacerbate the impact of negative emotions on OCB and CWB. Our data, however, revealed absolutely no evidence for moderation.

Summary of Results

The results indicated that unjust treatment was highly variable within persons over time. Moreover, unjust treatment was associated (positively) with negative emotions (barring guilt). Unjust treatment also was associated with certain emotion regulation strategies (faking emotions, suppressing emotions, and reappraisal), and with certain behaviors (OCB-Supervisor, CWB-Supervisor, and CWB-Co-worker); however, most of these effects were through negative emotions. Contrary to our predictions, there was little evidence that the relationship between unjust treatment and work behavior was stronger when the source of treatment and the focus of behavior were the same than when they were different. In terms of emotion regulation strategies,

faking emotions appeared to be the most undesirable strategy in the sense that it was associated with less OCB and more CWB. Finally, emotion regulation strategies were not found to moderate the effect of negative emotions on OCB and CWB.

Figure 11 summarizes the results in a heuristic fashion.

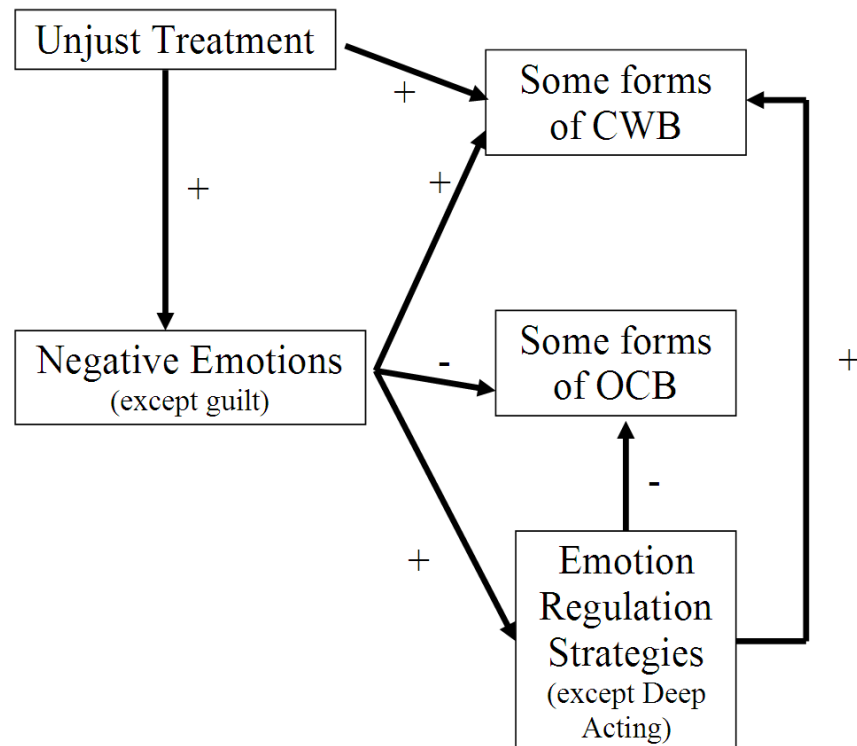


Figure 11. Findings of interest (Project 4).

Discussion

Emotions and behavior feature once again in the present research (as they did in the previous research). However, the present research introduces two new elements: emotion regulation and unjust treatment. In particular, the focus was on unjust treatment as an antecedent of negative emotions, which in turn were antecedents of emotion regulation strategies and work behavior. In other words, negative emotions were predicted to mediate the relationships between unjust treatment on the one hand and emotion regulation strategies or work behavior on the other. Figure 11 indicates that unjust treatment was not related to all forms of emotion regulation or work behavior, but that, in those cases where it *was* related, the relationships were mediated by negative emotions.

However, contrary to expectations, the relationships between unjust treatment and behavior were not found to be stronger when the source of the unjust treatment was the same as the target of the behavior than when they were different. Employees who are treated unjustly may sometimes be unable or unwilling to retaliate against the source of the mistreatment.

Alternately, these employees may plan their retaliation for a later time—perhaps several days or weeks later. Yet another possibility is that, for employees who are treated unjustly, the overall negative affect is more powerful than discrete negative emotions: because mood, unlike discrete emotions, does not have a specific target (Weiss & Cropanzano, 1996), these employees may not be too discerning about the targets of their own subsequent behavior. Future research should attempt to design investigations to test these explanations against each other (e.g., Platt, 1964).

It should be noted that our conceptualization of unjust treatment was quite different from that typically adopted. In a typical research investigation, respondents are surveyed only once and are asked to recall habitual levels of unjust treatment. Thus, the focus is on differences in unjust treatment across people (e.g., Person X has been treated much more unjustly than Person Y). The present research, however, takes the view that unjust treatment is episodic or momentary—a person can be treated fairly and unfairly at different times. In this sense, unjust treatment, when it occurs, can be viewed as a workplace *event*—and therefore falls under the rubric of Affective Events Theory (Weiss & Cropanzano, 1996).

The fact that unjust treatment was highly variable within persons over time bore out this proposition. Thus, in addition to managing stable or chronic workplace conditions, climates, etc., that foster habitual unjust treatment, organizations should attempt to minimize the more ephemeral episodes of unjust treatment—and/or should attempt to attenuate the links between such treatment on the one hand and negative emotions and behavior on the other.

How might employees' momentary perceptions of unjust treatment be reduced? The same strategies that are employed to reduce habitual or chronic perceptions of unjust treatment may be successful here, too; however, the key is the *consistency* of the use of such strategies. For example, extant research (Colquitt, 2001) demonstrates that employees' justice perceptions are better when they are treated cordially and with respect during their interactions with others. Thus, to prevent momentary injustice perceptions despite high habitual justice perceptions, supervisors should attempt to ensure that *virtually all* (as opposed to most) interactions between them and their employees are as pleasant as possible (e.g., by thinking ahead of time about how to phrase criticism in a constructive manner).

However, because it is impractical to expect that each and every instance of unjust treatment can be eliminated, organizations should attempt to minimize the impact of such perceptions when they do occur. It has been proposed, for example, that organizations can minimize instances of CWB by teaching employees (perhaps through workshops or employee assistance programs) to use more effective emotion regulation strategies—say, reappraisal rather than surface acting (faking or suppression). Nonetheless, our data did not reveal that emotion regulation strategies were able to moderate emotion-behavior links. One potential explanation for these results is that we assessed emotion regulation strategies as states, whereas the literature on emotion regulation typically conceptualizes the strategies as traits. In other words, we assessed whether emotion-behavior links were moderated *when* employees adopted various emotion regulation strategies; we did not assess whether emotion-behavior links were moderated by employees' *habitual* or *characteristic* emotion regulation strategies. Future research is needed to address this issue.

Finally, the data indicated that whereas unjust treatment and negative emotions were related to some forms of CWB, they were not related to CWB directed at customers. In other words, fortunately for customers, customer service appears to be somewhat insulated from unjust treatment and negative emotions. Future research should investigate whether this finding generalizes to other customer-service jobs, because our sample was composed mostly of restaurant wait-staff whose financial compensation is determined to a large extent by tips from customers. Thus, our sample had a strong incentive not to engage in customer-directed CWB—or at least not to engage in *detectable* customer-directed CWB.

General Discussion

The present program of research involved four ecological momentary assessment (EMA) investigations with a total of 215 participants, each of whom was surveyed multiple times per workday for either 2 or 3 workweeks.

Focus of the Present Research

At its core, Affective Events Theory (Weiss & Cropanzano, 1996) maintains that certain types of behavior are the products of affect (mood and emotions), that affect is highly variable within persons over time, and that, consequently, these types of behavior, too, are highly variable within persons.

One focus of the present set of projects, hence, was an empirical test of this assertion of within-person variability. A second focus was the within-person relationship between various types of work behavior. In particular, we were interested in OCB and CWB. Thus, the CWB construct (or facets thereof) was measured in all four projects. The OCB construct (or facets thereof) was measured in three of the four projects.

A third focus was the affect-behavior links predicted by Affective Events Theory and other researchers (e.g., Spector & Fox, 2002). Thus, negative affect was measured in all four projects, and positive affect in two of the four projects.

We augmented the study of these behavior-behavior and affect-behavior relationships with other relevant constructs: cognitive weariness, emotion regulation, events constituting unjust treatment, non-work factors (sleep quality and quantity, and stressful events), task performance, overall job performance, climate for incivility, emotional intelligence, personality, and leader-member exchange.

Conclusions, Implications, and Suggestions for Future Research

Perhaps the most important conclusion from this program of research was that behavioral constructs such as OCB and CWB, like their affective antecedents, exhibit substantial variance within persons over time. This is not to say that all the constructs under examination exhibited uniformly high within-person variability. On the contrary, for reasons that should be explored in

future research, CWB exhibited more within-person volatility than OCB. Nonetheless, even OCB exhibited considerable within-person variance.

Thus, behavioral constructs like OCB and CWB should be studied as dynamic constructs. Yet, virtually all existing research on these constructs has been between-person research that assumes a large amount of temporal stability and focuses instead on differences in behavior scores across people. Results at the within-person level of analysis need not be identical to those at the between-person level (Dalal & Hulin, in press; Robinson, 1950). A frequently cited example (e.g., Schwartz & Stone, 1998) is the effect of exercise on ambulatory blood pressure. Blood pressure is lower for people who exercise more than for people who exercise less. Yet, blood pressure is higher when a person is exercising than when he or she is not. In other words, the relationship between exercise and blood pressure is negative between persons but positive within persons. It is our hope that future researchers will conduct within-person research to complement the extant body of between-person research. As Nesselroade (2004) stated, “Accepting that the two kinds of information are different, it is a small step to accept that both are potentially valuable and therefore worth seeking” (p. 228).

Because within-person research on constructs like OCB and CWB is thus far very uncommon, even fundamental questions such as the frequency of occurrence of behaviors have not yet been answered adequately. Our traditional estimates of the frequency of occurrence come from retrospective, between-persons research. However, because of well-known errors and biases in human beings’ ability to recall incidents (e.g., Kahneman, 1999; Robinson & Clore, 2002), EMA research should be able to provide much more precise estimates of the frequency of occurrence of behaviors. Thus, for example, on the basis of Project 3 one can conclude that, at least in samples similar to ours, people on average experience an instance of uncivil behavior from others on approximately 23% of workdays—in other words, slightly more than once every workweek.

A second conclusion pertains to the OCB-CWB relationship. Many researchers (e.g., Bennett & Stamper, 2001; Organ & Paine, 1999) had expected a strong negative relationship between OCB and CWB. If this were the case, one could conclude that OCB and CWB are opposite ends of the same higher-order performance factor. Moreover, in this case, one need not measure both OCB *and* CWB—scores on either of them could be predicted quite accurately from scores on the other. However, results from Project 1 (and similar analyses in Projects 2 and 4) revealed a very different picture: namely that, within persons over time, OCB and CWB are only trivially related to each other. In fact, the obtained relationships are even weaker than the weak-to-moderate negative relationship reported by a recent meta-analysis of *between*-person research (Dalal, 2005).

The implications of these findings are quite interesting. The lack of a strong negative relationship *between* persons suggests that it is an oversimplification to believe that the “good citizen” will steer clear of counterproductive/deviant behavior, or that the “deviant employee” will steer clear of citizenship behavior. The lack of a strong negative relationship *within* a person over time suggests that it is an oversimplification to believe that a person will refrain from counterproductive behavior during time periods when he or she is engaging in citizenship behavior, or vice versa. In other words, employee performance is a lot more complex than

previously believed. Indeed, our results showed that OCB and CWB made independent contributions to overall job performance. Thus, future research on “the criterion” should include both these constructs.

It should, however, be noted that we did not measure very severe forms of CWB: theft, sabotage, drug use while at work, etc. It is therefore unclear whether, like the lower-severity CWB behaviors measured here, the high-severity behaviors: (1) exhibit very high within-person variance relative to between-person variance, and (2) are relatively unrelated to OCB. We excluded these high-severity behaviors from our purview because we wanted to focus on behaviors that could plausibly occur several times during the period of study (a maximum of 3 workweeks). Nonetheless, the high-severity CWBs are the most costly to organizations, and, consequently, the most interesting to organizational decision-makers. These behaviors should therefore be studied in future EMA research. In fact, yet another benefit of such research would be a more precise estimate of the frequency of occurrence of these high-severity behaviors—similar to the manner in which we estimated the frequency of occurrence of incivility.

A third conclusion pertains to the within-person affect-behavior links predicted by Affective Events Theory (Weiss & Cropanzano, 1996). We consistently found strong links between affect and work behavior. To us, this is unsurprising. However, to a field that turned its back on mood and emotions despite pioneering work in the area (e.g., Hersey, 1932), this message bears repeating. We are not saying that researchers interested in the prediction of job performance should stop studying attitudes such as job satisfaction, but rather that they should start studying mood and emotions on the job. In fact, we would hope that workplace affect soon attains the status of a core topic in organizational research.

Vis-à-vis affect-behavior relationships, we were able to test the specific *pattern* of relationships predicted by Spector and Fox (2002). Results from all four projects revealed clear links between NA and CWB (or facets thereof). Yet, clear links between PA and OCB were revealed in Project 1 but not in Project 2 (PA was not measured in Projects 3 and 4). Overall, however, Spector and Fox’s (2002) predictions of stronger PA-OCB and NA-CWB relationships, and weaker PA-CWB and NA-OCB relationships, were supported. Thus, with regard to both emotions and behaviors, there appears to be a disjunction between the “positive” (PA and OCB) and the “negative” (NA and CWB). It is unlikely that this positive-negative disjunction is due solely to the artifact of item wording direction (e.g., all OCB items are typically worded positively whereas all CWB items are typically worded negatively): empirical projects that have controlled for the effects of item wording direction have found that this disjunction remains (Dalal et al., 2003; Kelloway et al., 2002).

Indeed, although we focused only on negative discrete events (instances of unjust treatment and evening stressors), it is certainly conceivable that this positive-negative disjunction could be carried through the event-affect-behavior sequence, with positively-valent events predicting PA and in turn OCB, and negatively-valent events predicting NA and in turn CWB. Future research should address this possibility.

Vis-à-vis discrete events, we would moreover argue that research on their impact is hindered by a lack of consensus on their *structure*. Indeed, theoretically and empirically sound

taxonomies of events are virtually non-existent. Thus, we call for future research on taxonomies of events—or more generally on taxonomies of situations, with events being defined as ephemeral, as opposed to chronic, situations.

A fourth conclusion pertains to the impact of *experiencing* CWB. In one project, we found that people who experience incivility are more likely to experience negative emotions, and to respond with incivility and other forms of CWB such as interpersonal withdrawal. Thus, a single instance of incivility could spark a spiral, with each behavior becoming more severe than its predecessor. In another project, we examined instances of unjust treatment from various sources, and found that experiencing unjust treatment leads to some forms of CWB. However, many, if not most, of the behaviors perceived by the target to be instances of unjust treatment are in fact CWBs perpetrated upon the target by another person. Thus, not only the relationship between experiencing incivility and enacting incivility or withdrawal but also the relationship between perceiving unjust treatment and enacting CWB can be viewed as examples of the relationship between experiencing and enacting CWB.

In this regard, future research could use the “roster” method (Marsden, 1990; Scott, 2000)—that is often used in the social networks literature—within an EMA framework to isolate actors and targets of behavior. In other words, if a person experiences CWB and then responds with CWB, it would be possible to determine whether the person has retaliated against the original aggressor or has instead exhibited an instance of displaced aggression. This approach would, in fact, provide a more precise test of the “target similarity effect” (Lavelle et al., in press).

In addition to providing further information regarding the frequency of occurrence of various forms of aggression, such an approach could allow for the estimation of the conditional probabilities of engaging in retaliation and displaced aggression after experiencing aggression. These conditional probabilities could then be used as raw material for computational models (e.g., Ilgen & Hulin, 2000) that attempt to provide precise estimates of the frequency of occurrence of incivility spirals of various “lengths” (i.e., severities) in workgroups of varying sizes and communication patterns. We therefore suggest that research combining the EMA and roster approaches will be particularly fruitful.

In the areas mentioned above, the present projects have been able to provide at least preliminary answers regarding research questions of interest. In one other area, however, our data were inconclusive. Specifically, we were unable to determine whether *all* affective states, or just the anger-related states, are instigators of aggression (cf. Berkowitz, 1993). Results from Project 3, in which emotion-incivility relationships did not differ for the “active” (anger-related) and “passive” (non-anger-related) emotions, appear to suggest that any negative emotional state can trigger aggression. Results from Project 4, however, indicate that guilt is not related to CWB (though unhappiness, another non-anger-related state, is). Of course neither incivility nor CWB is a perfect proxy for aggression: the former is one form of relatively low-severity aggression whereas the latter contains some potentially non-aggressive components. Nonetheless, overall, our data do not reveal a clean picture. Future research should therefore explore this issue.

Finally, a broader, methodological, question arises from our research. In all the current projects, we financially compensated research participants contingent on the proportion of the total surveys they completed (i.e., based on data *quantity*). It is unclear, however, whether this policy adversely affected the *quality* of the data provided by participants. The existence of many hypothesized relationships in the data suggests that the data quality was acceptable, but future research should nonetheless investigate the impact of completion-based financial incentives on the quality of survey data.

Implications for the U.S. Military

Although the research program described above was not explicitly designed with applied problems in mind, it nonetheless has numerous practical implications for the U.S. military.

One important implication is that overall job performance is composed of several, very distinct elements or dimensions. In the present research, we studied task performance, organizational citizenship behavior, and counterproductive work behavior—each of which was found to make unique contributions to overall performance. Similarly, the “Project A” program of research (Campbell, 1990a) has proposed several facets of performance. What this means is that, regardless at whether we look at differences in performance across people (Project A) or differences in performance across time within the same person (our research), the fact remains that overall Soldier performance is multidimensional.

When multiple dimensions of performance exist, and when these dimensions are at best moderately related to each other, initiatives taken to alter the level of one dimension may have little effect on the levels of other dimensions. For example, an intelligence test is likely to be successful at screening out applicants who, if selected, would achieve poor levels of task performance. However, the intelligence test, in and of itself, is unlikely to successfully screen out applicants who, if selected, would engage in low levels of citizenship behavior.

The importance of studying counterproductive or deviant work behavior, in particular, has long been recognized by the U.S. military (Bell & Holz, 1975; Hackett, 2002; Lennon, 1994). Counterproductive work behavior is likely to be of great interest to military policymakers, given the widespread publicity attached to recent incidents occurring at Abu Ghraib and Haditha, as well as the current focus on the “strategic sergeant.” There has been military research on the side of positive or citizenship behavior (also called contextual performance). For instance, Motowidlo and Van Scotter (1994) were able to clearly distinguish between citizenship behavior and task performance of Air Force mechanics, and there is some evidence that future career advancement and rewards in the military are in part functions of citizenship behavior (Van Scotter, Motowidlo, & Cross, 2000).

A second important implication is that job performance (or each facet thereof) is highly volatile within a given person over time. In other words, over time, there are likely to be numerous deviations—and occasionally very large deviations—from a Soldier’s average level of performance. Because these deviations do not simply represent error, it is insufficient to know only a Soldier’s average level of performance. Rather, it is important to understand what causes

the deviations. Most research to date has assumed within-person stability and focused on between-person differences (i.e., individual differences)—or at best has focused on relatively long-term (e.g., months or years) within-person change. However, Affective Events Theory predicts, and we have found empirically, that short-term (e.g., hours or days) within-person change also exists, and is also important. Because of the long-term and, especially, short-term changes in the level of a Soldier's job performance, it is unreasonable to expect selection tests to be able to yield Soldiers who *consistently* perform at very high levels. Situational factors, such as events and interventions, therefore assume greater importance.

A third implication is that, simply stated, emotions matter. In fact, they matter a great deal. They influence work behavior and performance. They also appear to influence cognitive weariness, which in turn influences work behavior and performance. Indeed, although more research is needed, it may well be the case that, compared to job satisfaction, emotions and moods are better predictors of job performance.

It is difficult to acknowledge the importance of emotions in a traditionally masculine culture like the military. However, military policy-makers interested in “evidence-based practice” are likely to see the value in attempting to decrease both the occurrence and the impact of negative emotions among Soldiers. Indeed, there has been a history of studying emotions in the military, at least insofar as they influence behavior (e.g., Longley, 1947). The study of emotions need not be incompatible with the Stoic philosophy that continues to influence the U.S. military (Sherman, 2005).

A fourth implication is that “catharsis” (expressing anger or frustration through aggressive behavior) benefits nobody. Acting aggressively does not reduce the likelihood of future aggression (as Freud originally proposed), nor does it make the person acting aggressively feel better (as some have proposed more recently). Thus, aggression is not beneficial to the aggressor. Moreover, aggression is obviously not beneficial to the victim—nor is it beneficial to the work team or unit as a whole. Our findings suggest that aggression begets aggression, and that it is possible for a spiral of aggressive behavior to be created. Many physical altercations, for example, begin with incivility, which is a low-severity form of (verbal) aggression.¹

In addition to acting on one's negative emotions (i.e., catharsis), our results indicate that faking (pretending) the display of positive emotions is harmful in the sense that this particular emotion regulation strategy is associated with more counterproductive behavior and less citizenship behavior. In fact, the ability to not just judge but also *manage* one's own and others' emotions is the hallmark of what is known as “emotional intelligence.” Though much of the discussion of emotional intelligence in the popular press has been unscientific and overstated, this does not mean that the concept itself is invalid. Our results indicate that emotional intelligence (especially on the part of supervisors) reduces undesirable behavior such as incivility and withdrawal. Researchers are still uncertain whether emotional intelligence can be trained; however, it is clear that individual differences in emotional intelligence exist. Thus, in order to improve personal discipline and reduce misbehavior, it may be worthwhile for the military to

¹We should be clear that we are not arguing that aggressive behavior per se is harmful to the military—obviously, the very purpose of the military is to fight. What we have studied, and are now critiquing, is the impulsive, anger-driven, aggression directed at colleagues, civilians, detainees, and so forth.

consider selecting Soldiers on the basis of (among many other things) the ability to judge and manage emotions in themselves and others. Such skills are especially likely to serve Soldiers in good stead when they are under stress—for instance, when they need to deal with civilians during stability and support operations in a country with a very different societal culture.

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Appendix

HLM Results

Project 1 HLM Results

Table A1

Behavioral Co-Occurrence of OCB and CWB

	OCB-C	OCB-S	OCB-O
CWB-C	0.04	0.01	0.01
CWB-S	0.01	-0.02	0.04*
CWB-O	0.02	0.02	-0.18*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A2

Behavioral Switching From OCB_t to CWB_{t+1}

		Time $t+1$		
		CWB-Co-worker	CWB-Supervisor	CWB-Org
Time t	OCB-Co-worker	-0.01	0.00	0.07*
	OCB-Supervisor	0.02	0.00	-0.04
	OCB-Org	0.02	-0.02	0.03

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A3

Behavioral Switching From CWB_t to OCB_{t+1}

		Time $t+1$		
		OCB-Co-worker	OCB-Supervisor	OCB-Org
Time t	CWB-Co-worker	-0.01	0.02	0.00
	CWB-Supervisor	0.01	0.01	-0.01
	CWB-Org	0.01	0.00	0.01

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A4
Behavioral Co-Occurrence of OCB Facets

	OCB-Co-worker	OCB-Supervisor	OCB-Org
OCB-Co-worker			
OCB-Supervisor	0.30*		
OCB-Org	0.17*	0.13*	1.00

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A5
Behavioral Switching Between OCB_t and OCB_{t+1} Facets

		Time $t+1$		
		OCB-Co-worker	OCB-Supervisor	OCB-Org
Time t	OCB-Co-worker	0.14*	-0.03	-0.01
	OCB-Supervisor	-0.04	0.14*	0.00
	OCB-Org	0.00	-0.01	0.06*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A6
Behavioral Co-Occurrence of CWB Facets

	CWB-Co-worker	CWB-Supervisor	CWB-Org
CWB-Co-worker			
CWB-Supervisor	0.25*		
CWB-Org	0.06	0.11*	1.00

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A7
Behavioral Switching Between CWB_t and CWB_{t+1} Facets

		Time $t+1$		
		CWB-Co-worker	CWB-Supervisor	CWB-Org
Time t	CWB-Co-worker	0.15*	0.01	0.02
	CWB-Supervisor	-0.03	0.12*	-0.03
	CWB-Org	0.02	-0.01	0.09*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A8
Co-Occurrence of Mood and OCB

	OCB-Co-worker	OCB-Supervisor	OCB-Org
Positive Affect	0.05*	0.08*	0.27*
Negative Affect	-0.01	-0.01	-0.01

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A9
Lagged Relationships Between Mood_t and OCB_{t+1}

		Time $t+1$		
		OCB-Co-worker	OCB-Supervisor	OCB-Org
Time t	Positive Affect	0.02	-0.04	-0.03
	Negative Affect	-0.01	-0.02	0.02

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A10
Co-Occurrence of Mood and CWB

	CWB-Co-worker	CWB-Supervisor	CWB-Org
Positive Affect	-0.02	-0.02	-0.17*
Negative Affect	0.17*	0.08*	0.04

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A11
Lagged Relationships Between Mood_t and CWB_{t+1}

		Time $t+1$		
		CWB-Co-worker	CWB-Supervisor	CWB-Org
Time t	Positive Affect	0.02	0.00	0.01
	Negative Affect	-0.04	-0.01	0.01

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Project 2 HLM Results

Table A12
Concurrent Relationships Between Affect, Cognitive Weariness, and Performance

	OCB-I _t	OCB-O _t	CWB-I _t	CWB-O _t	Overall Performance _t
Positive Affect _t	-.01	-.02	.02	.02*	-.04
Negative Affect _t	.01	-.04	.07*	.02	-.12
Cognitive Weariness _t	-.03	-.04*	-.01	.03*	-.15*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A13
Lagged Relationships Between Affect, Cognitive Weariness, and Performance

		Time t				
		OCB-I	OCB-O	CWB-I	CWB-O	Overall Performance
Time $t-1$	Positive affect	.00	.02	.01	.00	-.03
	Negative affect	-.03	-.01	.02	-.01	.03
	Cognitive Weariness	-.00	-.03*	-.00	.01	-.11*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A14

Concurrent Relationships Between Affect and Cognitive Weariness

	Positive affect	Negative affect
Cognitive Weariness	-.14*	.32*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A15

Lagged Relationships Between Affect and Cognitive Weariness

		Time t		
		Positive affect	Negative affect	Cognitive Weariness
Time $t-1$	Positive affect	.24*	-.09*	-.04
	Negative affect	-.12*	.24*	.28*
	Cognitive Weariness	-.07*	.19*	.44*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Project 3 HLM Results

Table A16:

Concurrent Relationships Between Incivility and Withdrawal

	Experienced incivility	Instigated incivility	Withdrawal
Experienced incivility	1.00	0.50*	0.19*
Instigated incivility	0.44*	1.00	0.19*
Withdrawal	0.22*	0.22*	1.00

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A17
Lagged Relationships (Switching) Between Incivility and Withdrawal

		Time <i>t</i>		
		Experienced incivility	Instigated incivility	Withdrawal
Time <i>t-1</i>	Experienced incivility	0.06	0.07	0.04
	Instigated incivility	0.00	0.17*	-0.00
	Withdrawal	0.10	0.19*	0.27*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A18:
Lagged Relationships Between Behaviors and Affect

		Affect at Time <i>t</i>		
		Overall mood	Negative emotions	% Negative emotions
Time <i>t-1</i>	Experienced incivility	-0.10*	0.08*	0.05*
	Instigated incivility	-0.07*	0.01	0.02*
	Withdrawal	-0.15*	0.14*	0.13*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Project 4 HLM Results

Table A19
Relationships Between Unjust Treatment and Negative Emotions

Source of Unjust Treatment	Negative Emotions				
	Overall	Anger	Frustration	Guilt	Unhappiness
Overall	0.45*	0.52*	0.35*	0.11	0.38*
Supervisor	0.47*	0.58*	0.30*	0.12	0.43*
Co-workers	0.34*	0.31*	0.24*	0.24	0.25*
Customers	0.27*	0.44*	0.22*	0.08	0.24*
“Other”	0.42*	0.30	0.40*	0.05	0.37*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A20
Relationships Between Unjust Treatment and OCB

Source of Unjust Treatment	OCB toward...		
	Supervisor	Co-workers	Customers
Overall	-0.16*	0.02	0.09
Supervisor	-0.18*	0.06	0.12
Co-workers	-0.24*	0.08	0.15*
Customers	0.07	-0.06	-0.10
“Other”	0.05	0.08	0.23*

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A21
Relationships Between Unjust Treatment and CWB

Source of Unjust Treatment	CWB toward...		
	Supervisor	Co-workers	Customers
Overall	0.25*	0.23*	0.03
Supervisor	0.41*	0.34*	0.10
Co-workers	0.10	0.19*	-0.01
Customers	0.03	0.07	0.04
“Other”	0.09	-0.09	-0.03

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A22
Relationships Between Unjust Treatment and Emotion Regulation Strategies

Source of Unjust Treatment	Emotion Regulation Strategy			
	Surface Acting— Faking Emotions	Surface Acting— Suppressing Emotions	Reappraisal	Deep Acting
Overall	0.29*	0.31*	0.34*	0.06
Supervisor	0.28*	0.32*	0.25*	0.03
Co-workers	0.12	0.11	0.25*	-0.04
Customers	0.22*	0.21	0.23	0.18
“Other”	0.27*	0.41*	0.34*	0.13

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$

Table A23
Relationships Between Negative Emotions and CWB

Negative Emotions	CWB toward...		
	Supervisor	Co-workers	Customers
Overall	0.27*	0.12*	0.03
Anger	0.32*	0.15*	-0.03
Frustration	0.20*	0.12*	0.01
Guilt	0.07	0.06	0.07
Unhappiness	0.28*	0.14*	0.07

Note. Numbers in the tables are standardized multilevel regression coefficients (γ s). Predictor variables are listed in left column.

* $p < 0.05$